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CLARION

STATE

COLLEGE



Catalog 1974-1975

Vol. LXIII

August, 1974

No. 1

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CLARION STATE COLLEGE

CLARION, PENNSYLVANIA



CATALOG ISSUE

1974 — 1975

MEMBER OF
AMERICAN ASSOCIATION OF COLLEGES FOR
TEACHER EDUCATION

MEMBER OF
AMERICAN ASSOCIATION OF STATE
COLLEGES AND UNIVERSITIES

APPROVED BY
THE AMERICAN CHEMICAL SOCIETY

ACCREDITED BY
MIDDLE STATES ASSOCIATION OF COLLEGES
AND SECONDARY SCHOOLS

ACCREDITED BY
NATIONAL COUNCIL FOR ACCREDITATION OF
TEACHER EDUCATION

CLARION STATE COLLEGE WELCOMES QUALIFIED STUDENTS,
FACULTY, AND STAFF FROM ALL RACIAL, RELIGIOUS, ETHNIC,
AND SOCIO-ECONOMIC BACKGROUNDS. CLARION STATE COL-
LEGE IS AN EQUAL OPPORTUNITY EMPLOYER.

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CLARION STATE COLLEGE
CALENDAR 1973-74

PRE-SESSION 1973

Session Begins Monday, June 4
Session Ends Friday, June 22

REGULAR SESSION 1973

Session Begins Monday, June 25
Session Ends Friday, August 3

POST-SESSION 1973

Session Begins Monday, August 6
Session Ends Friday, August 24

SIX WEEK SESSIONS

First Session Begins Monday, June 4
First Session Ends Friday, July 13
Second Session Begins Monday, July 16
Second Session Ends Friday, August 24

FIRST SEMESTER 1973-74

Registration — day and evening classes . . Monday, August 27
Classes begin Tuesday, August 28
Labor Day holiday Monday, September 3
Thanksgiving recess begins 5:50 P.M. . . Tuesday, November 20
Thanksgiving recess ends 8:00 A.M. . . Monday, November 26
Classes end 5:50 P.M. Friday, December 14
Final examinations begin 8:00 A.M. . . Saturday, December 15
Semester ends 12:00 Noon Saturday, December 22

SECOND SEMESTER 1973-74

Registration — day and evening classes . . Monday, January 14
Classes begin 8:00 A.M. Tuesday, January 15
Easter recess begins 5:50 P.M. Friday, April 5
Easter recess ends 8:00 A.M. Tuesday, April 16
Classes end 10:00 P.M. Wednesday, May 8
Reading Day Thursday, May 9
Final examinations begin 8:00 A.M. Friday, May 10
Final examinations end Friday, May 17
Alumni Day Saturday, May 18
Commencement Sunday, May 19
Semester ends Monday, May 20

CLARION STATE COLLEGE
CALENDAR 1974-75

PRE-SESSION 1974

Session Begins Monday, June 3
Session Ends Friday, June 21

REGULAR SESSION 1974

Session Begins Monday, June 24
Session Ends Friday, August 2

POST SESSION 1974

Session Begins Monday, August 5
Session Ends Friday, August 23

SIX WEEK SESSIONS

First Session Begins Monday, June 3
First Session Ends Friday, July 12
Second Session Begins Monday, July 15
Second Session Ends Friday, August 23

FIRST SEMESTER 1974-75

Registration — day and evening classes . . Monday, August 26
Classes begin Tuesday, August 27
Labor Day holiday Monday, September 2
Thanksgiving recess begins 5:50 P.M. . . Tuesday, November 26
Thanksgiving recess ends 8:00 A.M. . . Monday, December 2
Classes end 5:50 P.M. Friday, December 13
Final Examinations begin 8:00 A.M. . . Saturday, December 14
Semester ends 12:00 Noon Saturday, December 21

SECOND SEMESTER 1974-75

Registration — day and evening classes . . Monday, January 13
Classes begin 8:00 A.M. Tuesday, January 14
Easter recess begins 5:50 P.M. Friday, March 21
Easter recess ends 8:00 A.M. Wednesday, April 2
Classes end 10:00 P.M. Wednesday, May 7
Reading Day Thursday, May 8
Final Examinations begin 8:00 A.M. Friday, May 9
Final Examinations end Friday, May 16
Alumni Day Saturday, May 17
Commencement Sunday, May 18
Semester ends Monday, May 19

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THE CAMPUS AND FACILITIES

MAIN CAMPUS

The main campus of Clarion State College occupies a tract of 55 acres. The Memorial Athletic Field provides recreational area of 29 acres for athletic events. The College has acquired land north of Main Street adjacent to the present campus, and a master plan will integrate the development of the new campus with the old.

BALLENTINE HALL, located on Wood Street, houses 116 men. It was named for Professor John Ballentine who taught and served at times as Acting President between 1887 and 1920.

BECHT HALL now serves as faculty office space and is located on Wood Street. It was named for J. George Becht, President of the college from 1904 to 1912.

BECKER RESEARCH-LEARNING CENTER is located on Greenville Avenue and Thorn Street. It provides laboratories for research in educational methods and houses regional services and educational consultative assistance. It was named for C. Fred Becker, Professor of Education and Director of the Laboratory School, Teacher Training, and Placement between 1924 and 1948.

CAMPBELL HALL houses 450 students at the corner of Payne and Wilson Streets. It was named for Frank M. Campbell, Professor of Social Science from 1938 to 1972.

CARLSON LIBRARY is located on Wood Street. The library contains over 200,000 volumes and more than 2,500 periodical titles. The building was named for Rena M. Carlson, College Librarian from 1929 to 1963.

CARRIER ADMINISTRATION BUILDING at Main Street and Ninth Avenue houses offices for the President and his staff, the Vice President for Academic Affairs and his staff, the Registrar, and the Business Office. It was named after Carrier Seminary, direct ancestor of Clarion State College, which had been named for the Carrier family, early benefactors of the Seminary.

CHANDLER DINING HALL is located north of Wood Street, behind Ballentine Hall. The modern design provides four dining areas and four serving lines in an attractive setting for comfortable dining. It was named for Dr. Paul G. Chandler, President of the College from 1937 to 1960.

CHAPEL THEATRE is located at Wood Street and Eighth Avenue. The attractive stone building seats four hundred for lectures or public performances.

DAVIS HALL, located on Greenville Avenue, serves as the Audio Visual Closed Circuit Educational Television Center for the campus and contains radio and television studios as well as the classrooms and offices of the Division of Communication. It was named for A. J. Davis, President of the College from 1887 to 1902.

EGBERT HALL is located between the Harvey Student Union and the Carlson Library and provides administrative offices. It was named for Professor Walter R. Egbert, a teacher and Dean of Men of the College from 1887 to 1920.

FOUNDERS HALL is situated at the corner of Wood and Ninth and houses Business Administration classrooms, laboratories and offices. It was named for seven founders of the institution.

GIVEN HALL, situated on the hill behind Chandler Dining Hall, houses 250 students. It was named for Lorena M. Given, a teacher at the College from 1893 to 1919.

HARVEY HALL is located between Peirce Science and Chandler Dining Hall. It provides a snack bar, recreation space and lounge areas, and student activity offices. It was named for Frank Laird Harvey, a Trustee of the College from 1911 to 1932.

KEELING HEALTH SERVICES CENTER, at the corner of Wilson and Wood Streets, has modern clinical and infirmary facilities. It was named for Doctor Edward J. Keeling, who provided medical care for college students for some twenty-five years between 1939 to 1968.

LIBERAL ARTS BUILDING will be located at Main Street and Ninth Avenue. It will house classrooms, offices, and laboratories for departments in the Humanities and in Business Administration.

MARWICK BOYD FINE ARTS CENTER, which stands at the south corner of Payne Street and Greenville Avenue, provides classrooms, studios, laboratories, offices, and exhibit areas for Art, Music, and Speech. The auditorium has a capacity of 1700 seats. A little theatre with seating for 250 utilizes the same stage. The Center was named for Miss Marie Marwick and

Miss Margaret A. Boyd, teachers of English, speech, and drama between 1929 and 1956.

McENTIRE MAINTENANCE BUILDING on Wilson Avenue, south of Payne Street, was named for Bernard D. McEntire, former Superintendent of Buildings and Grounds. It houses offices, maintenance shops, Security, and the motor pool.

MUSIC HALL, east of Carlson Library, is the residence of the president.

NAIR HALL provides housing for 450 students and is located on Main Street. It was named for Miss Bertha Nair, a faculty member in the Department of English for 38 years.

PEIRCE SCIENCE CENTER AND PLANETARIUM, located between Greenville Avenue and Chandler Dining Hall, provides modern classrooms, laboratories, and offices for Physical Science, Biological Science, and Geography, a 250 seat lecture hall, and a planetarium with a diameter of 40 feet. The Computer-Data Processing Center is on the ground floor. The building was named for Dr. Donald D. Peirce, teacher and Chairman of the Science Department between 1932 and 1968.

RALSTON HALL houses 200 students on the hill behind Chandler Dining Hall. It was named for Mrs. Amabel Lee Ralston, Dean of Women at the College from 1922 to 1930.

RIEMER COLLEGE CENTER is located at the north corner of Wilson Avenue and Payne Street. It offers an attractive lounge, snack bar, cafeteria, meeting rooms, and a multi-purpose area for dances, coffee house circuit, movies, informal programming, entertainment, etc. It was named for Dr. G. C. L. Riemer, President of the College from 1928 to 1937.

SPECIAL EDUCATION CENTER is located at the corner of Eighth and Greenville. It houses the Psycho-Educational Clinic and the Speech and Hearing Clinic, as well as the Language Laboratory and micro-teaching suites.

STEVENS HALL, attached to the Special Education Center on Greenville Avenue, provides college classroom and office space for professional and special education programs. It was named for Thaddeus Stevens, the father of the Pennsylvania Public School Law of 1834.

TIPPIN GYMNASIUM—NATATORIUM stands at the north corner of Payne and Greenville. It houses classrooms, offices,

and gym areas for physical education, a 3,600 seat arena for varsity sports, and a natatorium with separate diving and swimming pools. It was named for Waldo S. Tippin, teacher, coach, and athletic director between 1935 and 1966.

WILKINSON HALL houses 450 students on the Main Street area of the campus. It was named for Dr. J. W. F. Wilkinson, Dean of Instruction between 1924 and 1935.

VENANGO CAMPUS

Clarion State College operates an off-campus center in Oil City, Pennsylvania. Clarion's Venango Campus, now owned by the Commonwealth of Pennsylvania, is a tribute to the civic spirit of the people of the Oil City—Franklin area who supported and financed the venture. The Campus is located on a sixty-two acre wooded area on West First Street overlooking the Allegheny River.

Staffed with full-time faculty members of Clarion State College, Venango Campus offers students a convenient, inexpensive opportunity for two years of their college education. Courses at the branch campus are identical with those offered on main campus. In addition, Venango Campus now offers the curriculum leading to an Associate Degree of Science in Nursing.

VENANGO CLASSROOM BUILDING is an attractive, modern building containing classrooms, laboratories, library, recreational room, and college offices.

MONTGOMERY HALL, a privately owned residence hall located on the Venango Campus, provides housing for 105 women students and 105 men students. A dining hall is included in the building.

STUDENT AFFAIRS

Clarion State College is concerned not only with the academic development of young men and women but also with their development as mature, self-confident, socially competent adults. To assist this development, various student personnel services are provided. These services enable those enrolled in the college to perform more adequately as students and to derive benefit from the academic, cultural, social, and recreational opportunities offered by the campus environment. In addition,

every administrative and teaching member of the faculty is charged with the responsibility of assisting students to select and achieve goals consistent with the ideals of a college community.

STUDENT PERSONNEL SERVICES

HOUSING SERVICES

Students at Clarion State College live in residence halls, fraternity houses, facilities in the community, or their own homes. All freshmen and sophomore students are required to live in residence halls unless commuting from their parents' homes. Upon written application to the Office of the Dean of Student Affairs, exceptions to this policy may be granted. Student residence requirements are subject to annual review.

It is the desire of the college to have students representing all creeds, races, and ways of life living in the residence halls. In order to achieve this and, at the same time, comply with the Pennsylvania Fair Education Practices Act, all housing assignments are made without regard to race, religion, color, ancestry, or national origin. Within each residence hall, there is a cross section of students representing most aspects of highly divergent student body, and the student is exposed to living and working with all types of people. Hall and roommate preferences stated on housing applications are given consideration in making assignments and are honored whenever possible.

The contract for assignment to residence halls is for an entire semester unless otherwise specified. The only grounds for an automatic release from the contract are withdrawal from college, graduation, or student teaching. Students who marry during the period of the contract are usually released upon request, but it cannot be guaranteed that these or any other requests for releases will be granted either in Commonwealth or privately-owned facilities.

Housing and food service fees are payable at the same time that other college fees become due. Refunds cannot be made unless the student withdraws from college for medical reasons properly certified by the attending physician.

A separate housing and food service application must be submitted for each year. All students returning to residence halls must submit a housing application card at the announced time. Housing information will be mailed to new students prior to registration. All housing application cards must be accompanied by a nonrefundable deposit.

Housing and food services are provided only on a combined

basis for students living in the residence halls. Housing and food service contracts may not be transferred or assigned. The meal ticket may be used only by the student to whom it is issued, and a room may be occupied only by the student to whom it is assigned.

Student rooms in the residence halls are furnished with beds, desks, chairs, dressers, closets, pillows, and linen. Students should plan to furnish blankets, bed spreads, and small throw rugs. Radios and record players are permitted if they are operated with due consideration for others.

General residence hall rules and regulations are contained in the Student Handbook; in addition, specific rules applicable to individual residence halls will be made available to each resident when he moves into a hall. Current rules and regulations have been established and are enforced by the governing bodies of the residence halls.

A limited list of housing available in the community is maintained by the Office of the Dean of Student Affairs.

FOOD SERVICE

Wholesome, well-balanced meals are provided in Chandler, Forest Manor, and Montgomery Dining Halls by Servomation-Mathias, Inc. All students living in residence halls are required to eat their meals in a dining hall. Students not living in residence halls are invited to eat their meals in Chandler Hall on a semester contract basis.

STUDENT DEVELOPMENT

Clarion State College recognizes that there are applicants for admission whose success in college is jeopardized because of academic and/or cultural disadvantages. As a result of this recognition the College has established a program to assist students who may have problems of adjustment. This program is supervised by the Director of Educational Opportunity for Student Development. Students are identified for this program by an evaluation of high school achievement and SAT scores. The program provides for individual and group counseling, reading and study skills instruction, tutorial services, and close academic advisement.

STUDENT HEALTH INSURANCE

In order to ease the financial burden which could result from serious or extended illness or injury, Clarion State College expects all students to participate in a group insurance plan which covers the student wherever the illness or accident may occur. A waiver privilege will be extended to those students

who have private coverage equal or better than the coverage of the group insurance plan offered. A policy may be for a full twelve months from August 15 to August 24, or for the second semester, January 12 to August 24.

COUNSELING SERVICE

Counseling Center staff provide professional services related to developmental, educational, and vocational goals as well as to problems of personal, social, and emotional adjustment. The services of the Counseling Center are available without charge to all regularly enrolled Clarion State College students.

Most students request counseling on their own initiative. Some, however, need encouragement from others to seek counseling assistance. These students may be referred by instructors, academic advisers, residence hall staff, administrators, parents, or fellow students. Those seeking counseling services are not just the marginal or immature students; frequently the exceptionally able and conscientious students require the benefits of professional help in the counseling setting.

In keeping with accepted professional practice, counseling contacts with students are strictly confidential. No information is released to officers of the administration, faculty members, parents, graduate schools, governmental officials, or other outside agencies without the student's written authorization in advance. Rare exceptions to the above policy may occur when, in the counselor's professional opinion, there is a clear, immediate threat to the life or welfare of the student himself, to other students, or to the community at large.

For students who need psychiatric evaluation and/or therapy, the Counseling Center maintains a referral service with the Venango County Mental Health Center.

HEALTH SERVICE

Recognizing that good physical and mental health is important to the educational process, the college provides for the protection and development of the health of its students. The Edward J. Keeling Health Services Center is located at the Corner of Wood Street and Wilson Avenue and is staffed with resident nurses 24 hours per day, seven days per week.

College physicians maintain regularly scheduled office hours Monday through Friday. Additional visits to infirmary patients are made as required. When ill, students are expected to make every effort to visit the Health Center during regular clinic hours.

An infirmary is available to all full-time students requiring

supervised care. Neither the college physicians nor nurses can make house calls, and only under emergency circumstances are calls made to a residence hall.

In any cases requiring transportation to a hospital, an ambulance will be used at the expense of the individual involved. Other related expenses, not covered by student insurance programs, are the responsibility of the student.

CAREER PLANNING AND PLACEMENT

Counseling and guidance in career planning and placement are provided for all registrants. Students are encouraged to call personally at the office, especially in their earlier years of college, if they have any needs concerning career information.

The Career Planning and Placement Office assists all Clarion State College graduates in obtaining positions for which their college program has qualified them. Vacancy notices are received from public schools, government agencies, business, and industry and are relayed to those who are registered with the Placement Service. Assistance is given college students and personnel officials in arranging for employment interviews. Placement credentials are prepared and distributed, upon request, to prospective employers to support the candidacy of registrants. Students' competence in their areas of specialization, their conduct, and their general demeanor are presented in a professional manner by the Career Planning and Placement Office for review by prospective employers. A listing of graduates, including their addresses, phone numbers, and areas of concentration, is prepared and mailed to prospective employers to facilitate the graduate in obtaining a position. Any student who does not wish his name on the list may have it removed upon request.

Career Planning and Placement is a free service. Graduates of former years are served, as well as current seniors, and all are urged to maintain their contacts with the Placement Service as a means of facilitating professional promotion.

All communications concerning career planning and placement should be sent to the Office of Career Planning and Placement.

PARKING AND AUTOMOBILE REGULATIONS

All provisions of the Vehicle Code of the Commonwealth of Pennsylvania as supplemented by college regulations will be strictly enforced on the Clarion State College Campus. Authority for such enforcement rests with the Director of Law Enforcement and Safety.

All students who possess, maintain, or operate a motor vehicle on campus shall register such vehicle with the Department of Law Enforcement and Safety. Registration must be completed during the academic registration period.

1. Except for commuting students whose residence is beyond the Clarion Borough limits, only seniors are permitted to operate or park a motor vehicle on campus or in college supervised parking areas while attending Clarion State College.
2. Students qualifying for campus parking privileges will be issued a decal indicating that this privilege has been granted and will be assigned to a specific parking area.
3. Any student acquiring the use of a motor vehicle after the regular registration period who intends to operate the vehicle on campus must register the vehicle within twenty-four hours with the Office of the Director of Security. Motor vehicles must be registered even when their use is intermittent rather than regular.

STUDENT ACTIVITIES

Student activities of Clarion are viewed as another means of self-development; therefore, the responsibility for the success of any activity or organization must rest with the students involved. As a result of this policy, ample opportunity exists for gaining experience in leadership and self-government.

STUDENT GOVERNMENT

Through participation in student government, students have an opportunity to gain experience in democratic living and self-government. All students become members of the Clarion Students' Association upon their initial enrollment at Clarion and, thereby, are eligible to participate in the election of the Student Senate, the governing body of the Association. The Student Senate serves as a coordinating body for student activities and as a means of communication between students, faculty, and administration.

STUDENT SENATE is responsible for expenditure of student activity fees through allocations to the various activities and organizations. The Senate has an important relationship to other Association operations such as the College Book Center and the Student Centers. It also appoints student representatives to various standing committees of the college.

Other opportunities for self-government are provided through the governing boards of the Association of Women

Students, Panhellenic Council, Inter-Fraternity Council, College Center Board, Inter-hall Council, and residence hall councils and boards.

The full utilization of this leadership is a very necessary element of success in any college or university and the maximum development of the leadership potential of each student must be considered an important part of the educational process. It is a well established fact that even though a college may have an excellent faculty and physical plant, it cannot attain true excellence unless it also has a capable and energetic student body able and willing to accept the responsibilities inherent in leadership.

ATHLETIC PROGRAM

INTERCOLLEGIATE ATHLETIC competition plays an important role in the lives of Clarion State College students. Clarion State College is affiliated with both the National Collegiate Athletic Association and the National Association of Intercollegiate Athletics. The present athletic program for men includes varsity and freshman teams in football, basketball, baseball, wrestling, riflery, golf, track, swimming, and cross country. Plans are developing to add gymnastics and soccer to the existing program.

The Women's Intercollegiate Athletic Activities include basketball, gymnastics, speed swimming, synchronized swimming, and volleyball. This program is under the jurisdiction of the Division of Girls' and Women's Sports, American Association of Health, Physical Education, and Recreation.

Facilities for intercollegiate athletics include the Memorial Stadium dedicated in 1965 and the Waldo S. Tippin Gymnasium-Natatorium dedicated in 1968. The stadium will seat approximately five thousand spectators for football and track, and has dressing rooms for varsity and freshman teams in football, baseball, and track, with separate visiting team dressing, shower, and locker rooms. The football field is surrounded by an all-weather track. The facility also includes a baseball diamond and field, practice football fields, and parking areas for several hundred cars. The new Gymnasium-Natatorium, seating approximately four thousand spectators, provides year-round physical education and athletic activities and services.

INTRAMURAL ATHLETICS are provided for men and women students by funds from student activity fees allocated by the Student Senate. The program is planned and supervised by the Department of Health, Physical Education and Recrea-

tion. Intramural competition is provided in touch football, soccer, volleyball, squash, handball, chess, bowling, table tennis, basketball, bridge, "500," wrestling, badminton, archery, billiards, swimming, softball, track and field, water basketball, golf, paddleball, and other areas where interest is sufficient.

VARSITY "C" CLUB. The Varsity "C" Club is made up of men of the College who have earned the "C" in one of the intercollegiate sports. Awards presented to all members are provided by the club. The objectives of this club are to aid in the maintenance of pleasant relationships with other colleges and in the promotion of a high standard of conduct by members of the athletic teams.

CULTURAL PROGRAM

In addition to full utilization of the numerous performing groups composed of members of the student body and faculty, the College Center Board each year coordinates a series of nationally known personalities and groups. The program is arranged by the Cultural Events area of the Center Board composed of student, faculty, staff, and alumni representatives.

MUSIC PROGRAM

CLARION STATE COLLEGE CONCERT CHOIR. Membership in the Concert Choir is by audition only. Auditions are held at the beginning of each semester, and membership is open to any student who can satisfactorily pass the audition examination. The Concert Choir has a long and distinguished history as a performing group.

THE MADRIGAL SINGERS is a highly select group made up of advanced students who possess the technique and voice which are vital to this specialized area of music. This group is a flexible one and varies in number from twelve to sixteen voices, depending upon the compositions to be performed. The literature presented by the Madrigal Singers represents some of the finest music ever written for voice.

THE LABORATORY BAND is a jazz ensemble of approximately twenty instrumentalists who desire to study jazz literature through performance of representative works. Members are selected by audition with the conductor. The Laboratory Band presents two formal concerts each year on the college campus and performs for high school and community audiences in tours throughout Western Pennsylvania.

MARCHING BAND. Ranked as one of the finest college bands in Pennsylvania, the Clarion State College Marching

Golden Eagles has continued its traditionally outstanding musicianship and marching finesse as the membership has increased.

The ideals of the band are geared first to develop musicianship and marching precision; second, to inspire and encourage academic achievement; third, to develop character; and fourth, to develop outstanding leadership ability.

SYMPHONIC BAND. The Clarion State College Symphonic band is a skilled ensemble of ninety wind and percussion players. Membership is dependent upon the outcome of the audition and particular instrumental needs.

Purposes of the Symphonic Band are to perform literature of the highest aesthetic value, with an emphasis on original works for band; to attain perfection in performance ability through rigid requirements for individual musicianship and advanced playing technique; and to provide a means for artistic expression through participation in a distinctive medium of musical expression.

The repertoire of the band is selected from all periods and styles of composition and is designed to meet a variety of program responsibilities.

The Symphonic Band is featured in two major concerts each year and an Annual Spring Tour. Guest artists and clinicians appearing with the band in recent years include Rafael Mendez, Bob Lowry, Warren Covington, James Burke, Frank Arsenault, Roy Burns, James W. Dunlop, William Bell, and Warren Mercer.

THE BRASS CHOIR is a highly specialized organization offering outstanding students an opportunity to study and perform chamber music for brass. The repertoire is varied with a concentration on early music and music of the twentieth century. Exactitude of intonation, rhythmic precision, phrasing, and proper methods of attack are stressed. The number of students in the Brass Choir will vary somewhat from semester to semester depending upon the instrumentation of the compositions to be performed. Participation is available by audition only.

THE CLARINET CHOIR is a performing organization specializing in chamber music specifically arranged for the entire clarinet family. Literature for this group encompasses compositions from different historical periods. The stress in this group is on performance and consequently intonation, rhythmic precision and dynamics. Furthermore, it furnishes the students with an opportunity not only to perform as regular members but also to participate as soloists and conductors in order to prepare them for public school music education. Any clarinetist

interested in the clarinet choir may participate, provided he or she has passed the audition for admission to this group.

WOODWIND AND BRASS ENSEMBLES are organized, depending on the talent and instrumentation which are available. Membership in these groups is voluntary.

TAU BETA SIGMA is a National Honorary Band Sorority on the Clarion Campus which received its charter in May of 1970. Membership is open to all women in the college band who have completed one semester of active participation in the band program and who have successfully completed a pledge period. The sorority is dedicated to the ideals of promoting musicianship, leadership, citizenship, and service.

THE CLARION STATE COLLEGE OPERA WORKSHOP is open to all students who are interested in becoming acquainted with great works in lyric drama and musical comedy and the problems involved in producing these works. Short scenes, as well as complete works, are produced in the fall and spring semesters and during the summer. Dancers, singers, actors, and production personnel are invited to participate.

THE CLARION STATE COLLEGE-COMMUNITY ORCHESTRA consists of students, faculty, and selected laymen of the area. The orchestra traditionally presents concerts each year which include not only the standard literature for orchestra but also the performance of concertos with students and faculty as soloists. Other playing opportunities are provided on occasion to perform with the choir, opera workshop, and the all-college musical. Membership is open to all in consultation with the conductor.

PUBLICATIONS PROGRAM

THE CLARION CALL is the weekly college newspaper. Published by the Clarion Students' Association, it follows regular newspaper style and format. Staff participation is essential for students with an interest in entering the field of journalism or publications advisement. Prior experience in journalism is helpful but certainly not necessary for success. Certain editorial and business positions receive financial remuneration.

THE CLARION, which is published under the guidance of the English Department, presents a channel of creative communication for those students whose interests and talents are in this area. This publication is the culmination of the year's best in creative writing by Clarion State College students.

THE SEQUELLE is the college yearbook. The staff is comprised of students from all classes and curricula and truly represents all interests on campus. Staff membership is invaluable to the student who plans to teach, advise, or work in the area of journalism or photography. Professional help is available to the staff as they plan, write, and create the book.

RELIGIOUS PROGRAM

THE CAMPUS MINISTRY is an ecumenical community sponsored experience by Catholic and Protestant Churches organized to provide a ministry to the people of Clarion State College. Its special concern is to help develop in the college the kind of community wherein a person can ask questions and find answers that will make his life meaningful. The Ministry is that life happens where people touch.

The Ministry prides itself on being open to all people and all views while at the same time maintaining its own religious integrity. Traditional and contemporary forms of worship and celebration are offered through Folk Mass, The Celebration Troupe, the Churches of Clarion, and Campus Crusade for Christ. The work of the Campus Ministry is the effort of students, faculty, administrators, campus ministers, local church pastors, and many others.

SOCIAL PROGRAM

The purpose of the extensive and varied activities program on campus is to make students' college life richer and more enjoyable. Social functions are financed from allocations from student activity funds made by the Student Senate and are managed by the College Center Board.

Among the major events are Homecoming, Spring Weekend, Miss CSC Pageant, Arts Festival, Coffee House Circuit, and pops concerts. Additional activities such as movies, dances, talent shows, and various cultural events are programmed regularly throughout the year. Receptions, teas, banquets, special luncheons, etc., are also numerous both on and off campus.

The many social events take place in the Riemer College Center, Harvey Hall, Chandler Dining Hall, The Chapel, or the Marwick-Boyd Auditorium. Harvey Hall, renovated in 1968, provides facilities for pocket billiards, small table games area, a lounge and TV, poster shop, activities work room, the college newspaper and yearbook offices, the campus radio station, a ground floor snack bar, and offices of the Director of College Centers. The new Riemer College Center, opened in the Spring of 1972, provides excellent facilities for cafeteria/snack bar food service, dance and multi-purpose entertainment areas including

a portable stage and audience-type seating, a lounge with TV, several conference rooms, and the Center office.

SOCIAL ORGANIZATIONS

SORORITIES provide an opportunity for women students to develop close friendships within a group whose aims are common with their own. They promote scholarship, cultural interests, service projects, and participation in campus activities. The national sororities are Alpha Sigma Alpha, Alpha Sigma Tau, Alpha Xi Delta, Delta Zeta, Phi Sigma Sigma, Sigma Sigma Sigma, and Zeta Tau Alpha.

PANHELLENIC COUNCIL is the advisory governing board for all Clarion State College sororities. The council promotes cooperation and coordination of activities and standards among sororities and between sororities and fraternities. Two representatives from each of the seven sororities on campus comprise the membership of the Council. A major social activity planned jointly by Panhellenic and Interfraternity Councils is Greek Weekend, which is held during the spring semester.

FRATERNITIES. Chapters of seven national fraternities, Alpha Chi Rho, Phi Kappa Theta, Phi Sigma Epsilon, Phi Sigma Kappa, Tau Kappa Epsilon, Theta Chi, and Theta Xi, in addition to two locals, Alpha Gamma Phi and Sigma Tau, are located on the campus. Members of several of these organizations live in chapter houses near the campus.

INTER-FRATERNITY COUNCIL is the governing organization of the fraternities and is composed of representatives of the nine fraternities. Under the provisions of its constitution, it is responsible for the coordination of fraternity programs, pledging activities, and the arbitration and adjudication of violations of I.F.C. policies. In addition, it works actively with the Panhellenic Council to enhance the position and welfare of all Greek letter organizations on campus.

SPEECH AND DRAMATICS ORGANIZATIONS

PI KAPPA DELTA is a national honorary society in forensics. Clarion students attend thirty or forty debate tournaments a year and have traveled as far as Tacoma, Washington, and New Orleans, Louisiana, to take part in intercollegiate competition in debate, oratory, and extemporaneous speaking. Active team members earn the right to membership in Pi Kappa Delta.

COLLEGE READERS is an organization that attempts to present a literary script with oral readers, using their voices and bodies to suggest the intellectual, emotional, and sensory

experiences inherent in literature. The College Readers engage in two types of annual activities. The first kind consists of major performances on campus. The second kind of activity is travel. The Readers attend oral interpretation festivals and workshops as well as present major performances in universities, churches, and theaters requesting their work. These activities present an opportunity for constructive, informative group or professional evaluations of readings, as well as an opportunity to meet enlightened people and acquire new ideas.

ALPHA PSI OMEGA is a national honorary dramatics fraternity. Alpha Upsilon is the local chapter at Clarion. This organization attempts to further the student's knowledge of and association with the theatre. This chapter sponsors the Alpha Psi Omega Memorial Scholarship Fund which grants deserving theatre awards to recognize students' work with the theatre. In order to become a member of the fraternity, a certain number of points must be obtained through work with a theatrical production.

COLLEGE PLAYERS. The campus dramatic organization is known as the College Players. Opportunities for gaining experience in the various phases of play productions are afforded through participation in five major productions and the student-directed one-act play which are publicly produced at Clarion. There is also a Summer Theatre which offers five productions each summer.

PROFESSIONAL ORGANIZATIONS

BIOS CLUB is organized for biological science majors. Guest speakers from the Conservation Department, Fish and Wild Life, Forestry Department, and faculty of other colleges, and field trips are all part of the program designed to enrich the background of this natural science group.

THE STUDENT AFFILIATE CHAPTER OF THE AMERICAN CHEMICAL SOCIETY is an organization of chemistry majors which affords students an opportunity to become better acquainted, to secure the intellectual stimulation that arises from professional association, and to instill a professional pride in chemistry. Meetings are held monthly and consist of lectures by scientists from academe and industry.

THE CLARION STATE COLLEGE ARCHAEOLOGICAL ASSOCIATION provides students with an opportunity to participate actively in current field research. Established in 1964, the organization sponsors field trips, lectures, films, exhibits, and museum visits in addition to actual field excava-

tions. Membership is open to all Clarion State College students interested in archaeology. Bi-weekly meetings are held during the spring, summer, and fall. The field program is part of the upper Allegheny archaeological survey conducted in conjunction with the State Archaeologist's office in Harrisburg and the Carnegie Museum of Pittsburgh.

THE CLARION GEOGRAPHICAL SOCIETY is a student centered organization which endeavors to promote an interest in geography and an awareness of current environmental problems such as air and water pollution, urban redevelopment, and suburban sprawl.

Membership is open to any student who is either a geography or earth and space major or who has a genuine interest in the field of geography.

MUSIC EDUCATORS NATIONAL CONFERENCE STUDENT CHAPTER seeks to acquaint students with the music education profession through workshops, programs, performing groups, and discussions planned by the chapter throughout the year. MENC also assists the Music Department with various projects. Membership is open to any full-time student interested in the teaching of music.

NATIONAL STUDENT SPEECH AND HEARING ASSOCIATION is the student affiliate of the American Speech and Hearing Association, effective July 1, 1972, and was formerly recognized as Sigma Alpha Eta. Membership is open to any college student, graduate or undergraduate, interested in the study of normal and disordered human communication behavior. Its objectives are to create and stimulate an interest in the fields of speech and hearing science; to encourage professional growth; to foster a spirit of unity by coordinating the interests and efforts of persons with a common goal through opportunities for social and professional fellowship; to provide situations in which students and faculty may work together to advance the profession as a whole; and to aid in public relations with other college departments and with local organizations interested in learning about the profession.

STUDENT PENNSYLVANIA STATE EDUCATION ASSOCIATION is an organization which seeks to provide professional and personal growth for education majors and other interested students. Members are encouraged to participate in regional and state conferences where they will be exposed to current problems of education, share in policy-making, and make specific recommendations for improving the teaching profession. The local chapter provides a variety of educational

experiences through monthly meetings and tutoring programs.

Through membership in SPSEA students receive such specific benefits as magazines and bulletins from the state and national education association, reduced insurance rates, liability insurance while student teaching, and PSEA-NEA Travel Programs.

ALPHA MU GAMMA is the National Collegiate Foreign Language Honor Society. Membership is open to outstanding students in French, German, Spanish, and Russian, whether or not they are actually specializing in a foreign language. Each spring the society seeks to foster international friendship and understanding by celebrating National Language Week, during which various special events are scheduled.

GAMMA THETA UPSILON is an international geographic honor society. Membership is open to outstanding students majoring in Geography or Earth Science.

KAPPA DELTA PI is a National Honorary Education Fraternity. Membership is by invitation. To be eligible a student must attain a high academic rating in his overall college work.

PI MU EPSILON is the National Mathematics Honorary Fraternity. Membership in the Pennsylvania Lambda Chapter at Clarion is open to all outstanding students in Mathematics, whether or not they are majoring in the field. Its objectives are to study and recognize achievement in the field of mathematics, and promote mathematical scholarship and to encourage exploration into various branches of mathematics.

SIGMA TAU DELTA is a national English fraternity. Membership in the Rho Iota chapter at Clarion is open to outstanding students majoring in English. Its objectives are to promote the mastery of written expression, to encourage worth-while reading, and to foster a spirit of fellowship among men and women specializing in English. Sigma Tau Delta is the sponsor and editor of THE CLARION, the college magazine to which all students are encouraged to contribute.

NEW STUDENT ORIENTATION

All new students are expected to attend one orientation session prior to their matriculation. Usually nine separate sessions of two days' duration are conducted between the last week of June and the first week of August. Parents are welcome and encouraged to attend with their sons and daughters.

The primary objective of the program is to aid entering students in making the adjustment to life at Clarion State College. In order to facilitate that adjustment and allow students to pursue their education in the best possible manner,

the academic and extra-curricular phases of college life are experienced and explored in large and small groups. Academic advisement and pre-registration information for fall semester classes culminate the program.

Registration forms and instructions will be mailed during the spring semester prior to enrollment. Students entering in January also attend during the summer.

GENERAL INFORMATION

ACCELERATED PROGRAM

Students who take three summer terms of twelve weeks each may finish the four-year course in three years.

ADVANCED PLACEMENT

Clarion State College accepts credit for course work taken under the Advanced Placement Program of the College Entrance Examination Board if the Advanced Placement Test mark is 3, 4, or 5. Students applying for credit by Advanced Placement must have their test records submitted to the Office of the Vice-President for Academic Affairs along with their application for credit.

CORRESPONDENCE DIRECTORY

Academic Affairs

Vice President for Academic Affairs

Admissions

Director of Admissions

Alumni Affairs

Alumni Secretary

Business Affairs, Fees, Refunds

Business Manager

Certification

Dean of Professional Studies

Courses and Curricula

Appropriate Divisional Dean

Student Affairs, Organizations, Activities

Dean of Student Affairs

Summer Classes

Director of Summer Sessions

Transcripts and Records

Registrar

Address for all above named officials:

Clarion State College

Clarion, Pennsylvania 16214

COURSE NUMBERING

Courses numbered 100 to 299 inclusive are primarily for Freshmen and Sophomores; 300 to 499 for Juniors and Seniors. Some courses numbered between 400 and 499 are acceptable for graduate credit. Courses numbered above 500 carry graduate credit.

The college reserves the right to change the sequence and numbering of courses.

CREDIT BY EXAMINATION

Course credit not exceeding 18 semester hours may be earned by proficiency examination. Students should make application for such examinations in the Office of Academic Affairs. The Dean and the chairman of the department in which the course is listed will determine the validity of the request. Consideration will be given to first semester freshmen who have scored 550 or above on each part of the SAT or to others who have a quality point average of 3.00 or above.

Credit may also be earned by way of the College-Level Examination Program (CLEP) administered by the College Entrance Examination Board. These tests are used to evaluate college-level education gained in unconventional ways. This applies to all students but particularly to adults who have acquired their knowledge and understanding through independent study, work experience or service schools. The amount of credit and the score required for granting credit is determined by the appropriate divisional dean.

EVENING CLASSES

Evening classes are organized each semester for the convenience of regular students, in-service teachers, and others who may be interested in college courses. Work done in these courses gives customary college credit and may be applied toward a degree. Information concerning course offerings may be secured by writing to the Office of Academic Affairs.

STUDENT RECORDS

Student academic and personal records, except that information which is otherwise public, are confidential in nature and shall be released only to appropriate faculty, administrative officers, and parents and guardians if the student is a minor. Release of these records to other persons, institutions, or governmental and legal agencies shall occur only upon approval by the student or graduate or upon subpoena.

Transcripts of academic work are available to the student or graduate at the Registrar's Office when requested by him. The first transcript is free; thereafter, the charge is \$1.00 per transcript.

STUDENT RESPONSIBILITY FOR ACADEMIC PROGRAM

Each student is individually and personally responsible for learning the requirements of the curriculum which he is following and for seeing that these requirements are scheduled and completed for graduation. It should also be understood that information and policies presented in this catalog are subject to change before a new edition is published.

STUDY ABROAD – INTERNATIONAL EDUCATION

Clarion State College is a member of the Regional Council for International Education, founded in 1959 as a unique cooperative effort to strengthen the international phases of education. The Council, composed of over 30 colleges and universities in Pennsylvania, West Virginia, and Ohio, sponsors continuing faculty enrichment programs, exchange lectureships, visiting scholars from abroad who spend substantial periods on member college campuses, and an undergraduate study-year abroad in social sciences in Basel, Switzerland, and in the humanities in Verona, Italy.

The Basel center emphasizes work in the area of modern European history and international affairs. Classes are conducted at the Regional Council Study Center by an instructional staff drawn primarily from the nearby University of Basel with a few Americans acting as administrators. Although these classes are taught in English, all students live with Swiss families, as proficiency in German is one aim of the program.

The Verona center offers the opportunity to delve into the humanistic aspects of the Western tradition and concentrates on the areas of history, the arts, and literature. Courses are conducted in English, but all students live with Veronese families and proficiency in Italian is one goal of the program. As at Basel, the program is administered by Americans with an instructional staff drawn from the University of Verona and other institutions. There is no language prerequisite for either program.

Other study abroad opportunities are also available to students through the Council. For additional information contact the Dean of Liberal Arts.

THE 1974 SUMMER SESSION

The Summer Session is maintained for the benefit of regular

college students as well as for teachers in service. By taking advantage of the summer sessions, teachers can secure the professional training needed to meet the requirements for professional certification. Advanced courses are offered in the summer sessions for the benefit of teachers who desire to secure credits toward a degree in education or for permanent certification. Workshops are being added for those interested in special problems in education. Library Science certification may be added in three or four summers. Liberal Arts, Business Administration, and Graduate courses are also an important part of the summer schedule.

Clarion is attractive to those who desire to combine work with recreation during the summer. The high elevation provides a pleasant climate, and the area offers opportunities for boating, swimming, hiking, riding, and other outdoor activities.

The Pre-Summer Session lasts three weeks, from June 3, 1974, through June 21, 1974. The Regular Summer Session of 1974 will open on June 24 and close on August 2. The Post-Session includes the three weeks from August 5 through August 23. There are also two consecutive six week periods. The first starts on June 3 and ends July 12. The second starts July 15 and ends on August 23.

VETERANS' AFFAIRS

Clarion is approved by the Veterans Administration to offer the regular degree curricula to veterans and children of deceased veterans.

Credit for educational experience in the Armed Services is allowed on the basis of the recommendations of the American Council on Education.

Veterans seeking information should consult the Office of Academic Affairs.

ADMISSIONS

ADMISSION OF FRESHMEN

In accordance with the principles governing admission adopted by the Board of State College Presidents, five general requirements have been established for admission to State Colleges:

1. General Scholarship
2. Character and Personality
3. Health and Physical Vigor
4. College Entrance Examination Board Tests
5. A Personal Interview

Applicants for admission must satisfy the following requirements as outlined in detail below.

1. General scholarship as evidenced by graduation from an approved secondary school or equivalent preparation as determined by the Division of Professional Certification and Credentials Evaluation Division of the Pennsylvania Department of Education. The applicant must submit scores earned on the Scholastic Aptitude Test administered by the College Entrance Examination Board or scores earned in the American College Testing Program. Arrangements for taking these examinations are to be made through the high school guidance counselor.

2. Satisfactory character and personality traits as well as proper attitudes and interests as determined by the high school principal, guidance director, or other school official acquainted with the student.

3. Health and physical condition as evidenced by a health examination by the student's family physician, reported on the official form and approved by the college physician. No student shall be admitted to the teacher education program who has, in the opinion of the college, disabilities which would impair his service as a teacher.

4. Have the College Entrance Examination Board or the American College Testing Program send your aptitude test scores.

All liberal arts applicants and education applicants who intend to major in a foreign language must schedule an achievement test in the language, if that language has been studied in high school. The achievement tests are administered by the College Entrance examination Board. Arrangements to take the tests may be made through the high school counselor.

ADMISSION WITH ADVANCED STANDING

Applicants transferring from other institutions will not be accepted without official transcripts of credit and certificates of honorable dismissal. All applicants are required to have an interview with a member of the Admissions Staff prior to the opening of the semester in which they wish to enter. A transfer student must have a minimum of one year's residence (30 semester hours of credit) to qualify for a degree from Clarion.

Credit will be given for acceptable courses pursued in accredited collegiate institutions in which the student has made grades of A, B, or C. Where the grades are marked on a percentage basis, work graded five per cent above the minimum passing grade will be accepted. Passing grades of "D" in other institutions will not be accepted. Course grades transferred from

other institutions do not affect the quality point average a student earns at Clarion.

Teachers in service may complete in extension courses not more than 25 per cent of the courses required for an undergraduate degree.

Applicants who are not graduates of an approved four-year high school must have their credits evaluated by the State Department of Education, Harrisburg, Pennsylvania. Applicants who need this type of evaluation should consult the Registrar of the College. This regulation applies to teachers in service.

All persons who were graduated from a State Normal School prior to September, 1920, and who have a four-year secondary school education will be granted no more than 64 semester hours of credit toward a degree for their normal school work.

No credit for public or private teaching experience, previously credited as high school equivalent or as equivalent professional credit toward graduation from a two-year curriculum, shall be granted toward meeting the requirements for entrance to or graduation from the four-year curriculums.

In accordance with a state regulation a maximum of six semester hours of credit may be completed in one semester while a person is engaged in full-time teaching.

No credit is given for correspondence work taken after September 1, 1927, except that pursued through the United States Armed Forces Institute or similar service organizations.

ADMISSION OF FRESHMEN IN AUGUST, 1974

Applicants for admission to the freshman class in 1974 should read and observe carefully the following procedure:

1. Come or send to the Admissions Office of the College for the forms necessary in making application for admission. There are three of these: (1) the application and personnel record blank, (2) the report of the medical examination, and (3) the report from secondary school officials.
2. Send the personnel record to the College along with an application fee of \$10.00, payable to the Commonwealth of Pennsylvania. This fee is not refundable. The secondary school record must be sent directly to the College by the principal or other official of the secondary school. The medical form is to be sent after the applicant has been accepted.
3. Have a personal interview with an official of the college. The Admissions Office of the College is open between the hours of 9:00 A.M. and 4:00 P.M., Monday through

Friday, and from 9:00 A.M. until 12:00 Noon on Saturday.

4. All liberal arts applicants and education applicants who intend to major in a foreign language must schedule an achievement test in the language, if that language has been studied in high school. The achievement tests are administered by the College Entrance Examination Board. Arrangements to take the tests may be made through the high school counselor.
5. A registration fee of \$25.00 must be paid when the applicant receives notice of approval of his application for admission. This fee is not refundable.
6. Clarion State College applicants may ask for a decision as early as July 1 following their Junior year. This would require the applicant to have taken the Scholastic Aptitude Test or the American College Test in the Junior Year.

WITHDRAWALS

All class withdrawals must be made through the Office of Academic Affairs. Classes from which a student withdraws during the first two weeks of a semester will not appear on his record. Withdrawals between the end of the second and sixth weeks may be made without penalty. From the beginning of the seventh week of the semester through the end of the ninth week, courses from which the student withdraws will appear on the student's record a "W" plus the grade he was making at the time of withdrawal. A grade of "W-E" will be used in calculating the student's quality point average. After the beginning of the tenth week of a semester or during half of a semester session, a course from which a student withdraws shall be finally reported with a grade of "E." Exceptions may be made for withdrawals due to extenuating circumstances such as illness or some other unavoidable occurrence.

If a student is on probation at the time of withdrawal from all classes and the withdrawal is after the twelfth week of the semester, he will not be permitted to return for the following semester unless the withdrawal is based on extenuating circumstances.

If a withdrawal is not made through the office of Academic Affairs, a failing grade will be recorded for that course.

Any student who withdraws from the college either during or at the end of a semester must notify the Office of Academic Affairs of his intention to withdraw and the reason for

withdrawal. This is necessary for completion of the student's permanent record. Failure to comply with this regulation will constitute an unofficial withdrawal and may affect the student's chances of future readmission or his obtaining an honorable dismissal.

SCHOLARSHIP REQUIREMENTS

Student progress is reported twice each semester. At the end of the first six weeks, each staff member submits to the Registrar a report of all freshmen students doing unsatisfactory work in their classes. These reports are recorded and then passed on to the advisers who give them to the students. The advisers take this opportunity to analyze with the students any problems they may have and to help them improve their study habits or correct other difficulties which may have contributed to their low scholarship.

GRADING SYSTEM

- A indicates superior attainment.
- B indicates attainment above average.
- C indicates average attainment.
- D indicates attainment below average.
- E indicates failure.
- Inc indicates incomplete work.
- W indicates withdrawal from a course.
- WX indicates withdrawal from college.

Inc (incomplete) is not used unless a student has been in attendance through a semester or session. It indicates that the work of a student is incomplete and that the final grade is being withheld until the student fulfills all of the requirements of the course. It is used only when conditions and circumstances warrant and when evidence is presented to justify its being given.

All incomplete grades must be removed by the end of the following semester or they become failures.

Credit—No Record Courses. After a student has earned a minimum of 30 semester hours of credit and if he is in good academic standing, he may schedule a maximum of 6 courses or 18 semester hours for Credit—No Record. One such course may be taken each semester or summer session. Decision concerning the Credit—No Record option for a course must be made within one week after midterm comments have been sent to advisers, the first four days of any six weeks summer session, and the first two days of any three weeks summer session. Satisfactory

work in a Credit – No Record course shall be shown on the grade report as “Cr,” with no record and no credit for less than satisfactory work. Satisfactory work is defined as the equivalent of a “C” grade or better under the letter grading system currently in use by the college. Should a student desire to have a Credit–No Record course changed from “Cr” to a letter grade, he must retake the course. Credit–No Record courses are counted in determining the course load for a semester.

SCHOLARSHIP REQUIREMENTS

Scholarship policy at Clarion State College is formulated by the Committee on Admissions, Academic, and Athletic Standards, which is a sub-committee of the Faculty Senate.

Scholastic standing of students is determined on the basis of a quality point system in which a grade of “A” equals 4 quality points per semester hour; “B” equals 3; “C” equals 2; “D” equals 1; and “E” equals 0. The number of quality points earned in a single course for one semester is determined by multiplying the quality point value of the course grade by the number of semester hours in the course; thus, a grade of “A” in a three semester hour course has a quality point value of 12. A student’s quality point average at any specific time is determined by dividing the total number of quality points earned in all courses by the total number of semester hours of credit attempted. For example, if a student earns a total of 30 quality points from 15 semester hours of course work in a single semester, his quality point average for the semester is 2.00.

At the end of each semester, a student’s quality point average is calculated for that semester and also for all the course work he has taken up to and including the semester just completed. The latter is known as the cumulative quality point average.

In order to be in good academic standing, a baccalaureate student must earn a minimum quality point average of 1.50 his first semester; 1.75 in his second and third semesters; and 2.00 in his fourth semester and thereafter. His cumulative quality point average should also be 2.00 by the end of the fourth semester.

If at the end of any semester a student has fallen below a required standard in either his semester or cumulative average, he is placed on academic probation for one full semester, effective the first semester of attendance immediately following. If he fails to achieve a satisfactory average during the probationary semester, he is placed on academic suspension for one full semester, effective the first semester of attendance immediately following. However, a student on academic proba-

tion who achieves a satisfactory semester average but does not achieve a satisfactory cumulative average is continued on probationary status for an additional semester.

Scholarship policy for *two year programs* requires that a student earn a minimum quality point average of 1.75 his first semester and a 2.00 his second semester and thereafter in order to be in satisfactory academic standing. His cumulative quality point average should be 2.00 by the end of the second semester.

Students who are placed on probation or suspended are informed by letter. A copy of the letter is also sent to the student's parent, guardian, husband, or wife.

Teacher Education students, in order to qualify for student teaching, must have a quality point average of at least 2.00 in all fields in which they are seeking certification and a cumulative quality point average of 2.00 for all their academic work. They must also have completed satisfactorily the general education requirement in English. Students having six or more semester hours of reported failure in a field of certification or in professional education courses shall not be assigned to student teaching.

All candidates for undergraduate degrees must have a cumulative average of 2.00 for all academic work and must have met the general education requirement in English in order to qualify for graduation.

All scholastic standards noted above are subject to change by the college.

UNDERGRADUATE DEGREE PROGRAMS

The Associate Degree program in Nursing at Clarion is a two year course of study that is technical in nature. Admission requirements and procedures are the same as for the bachelor's degree programs, and the degree of Associate in Science is awarded upon completion of an approved program of study.

Clarion State College offers combined academic and professional education curricula leading to the undergraduate degree of Bachelor of Science in Education with certification for teaching in the public elementary and secondary schools of the Commonwealth of Pennsylvania. The college also offers the Bachelor of Arts in the Liberal Arts and Sciences, the Bachelor of Science in Business Administration, and the Bachelor of Science with majors in a variety of disciplines.

BUSINESS ADMINISTRATION

All students majoring in Business Administration are required to take a broad program of business foundation subjects

and then choose a business field of specialization in one of the following concentration areas:

1. ACCOUNTING
2. COMPUTER AND QUANTITATIVE SCIENCE
3. ECONOMICS
4. FINANCE
5. MANAGEMENT
6. MARKETING

LIBERAL ARTS AND SCIENCES

Students seeking the Bachelor of Arts degree may choose from among the three following broad areas of concentration, each of which offers a variety of fields for specialization:

1. HUMANITIES
 - a. Art
 - b. English
 - c. Foreign Languages
 - d. Music
 - e. Philosophy
 - f. Speech Communication
 - g. Theater
2. NATURAL SCIENCE AND MATHEMATICS
 - a. Biology
 - b. Chemistry
 - c. Earth Science
 - d. Mathematics
 - e. Physics
3. SOCIAL SCIENCES
 - a. Economics
 - b. Geography
 - c. History
 - d. Political Science
 - e. Psychology
 - f. Sociology-Anthropology

Students may earn the Bachelor of Science degree in the following areas:

1. Biology
2. Chemistry
3. Earth Science
4. Geography
5. Mathematics
6. Medical Technology
7. Physics

TEACHER EDUCATION

Students working toward the Bachelor of Science in Education may choose among curricula leading to certification in the following areas:

1. ELEMENTARY EDUCATION
2. LIBRARY SCIENCE
3. MUSIC EDUCATION
4. PUBLIC SCHOOL NURSING
5. SECONDARY EDUCATION
 - a. Biology
 - b. Chemistry
 - c. Communication
 - d. Earth and Space Science
 - e. English
 - f. French
 - g. General Science
 - h. German
 - i. Mathematics
 - j. Physics
 - k. Social Studies
 - l. Spanish
6. SPECIAL EDUCATION
7. SPEECH PATHOLOGY AND AUDIOLOGY

Any student who earns certification in Elementary Education, Library Science, or Secondary Education may also include in his program a course of study that will extend his certification to include Safe Driving and General Safety Education.

GRADUATE STUDY

Clarion State College offers curricula leading to the Master of Arts degree in English, history, and mathematics. The Master of Education is awarded in the fields of biology, elementary education, mathematics, reading education, science education, and speech pathology. The Master of Science degree is awarded in biology, communication, mathematics, and special education. There is also a program leading to the degree of Master of Science in Library Science.

FINANCIAL INFORMATION

(Subject to Change Without Notice)

Summary of approximate costs per academic year (Septem-

ber to May) for undergraduate Pennsylvania residents. Semester charges are one-half the amounts shown. Commuting students pay the same costs except the item for room, board, and linen service. Costs of room, board, and linen service may vary for students living in privately-owned residence halls. (Graduate students should check the Graduate Bulletin regarding fees.)

Basic Fee	\$ 700
Activity Fee	70
Room, Board, & Linen Service	720
Student Community Building Fee	20
Est. Cost — Books & Supplies	175
TOTAL	\$1,685

I. ACTIVITY FEE

This fee, collected from all regularly enrolled students, is administered through a student organization approved by the Board of Trustees. It covers the cost of athletic entertainment, publications, etc. Students carrying twelve semester hours or more must pay this fee. Students taking fewer than twelve semester hours may take advantage of the program by paying this fee. The fee, determined and collected by the Clarion Students' Association, is \$35.00 each semester. Student Activity Fees for Summer Sessions are as follows: Pre-Session \$3.00; Regular Session \$6.00; Post-Session \$3.00. The Activity Fee must be paid prior to or at the time of registration. Certified checks or money orders covering activity fees must be made payable to CLARION STUDENTS' ASSOCIATION.

Activity Fee refunds are governed by the following policy:

- A. A refund of a prepaid activity fee for the following semester will be given upon academic suspension if a request along with an ID card is received before ten days of the semester for which the fee has been paid has elapsed.
- B. A refund of a prepaid activity fee will be given upon withdrawal for transfer purposes if a request along with an ID card is received before the first day of a semester for which the fee was prepaid.
- C. No refund will be given for withdrawal or dismissal within a semester.
- D. Student teachers will be charged only \$17.50 per semester

who practice outside of the following centers: A. C. Valley, Brookville, Clarion, Clarion-Limestone, East Brady, East Forest, Karns City, Keystone, Moniteau, North Clarion, Redbank Valley, Union.

II. BASIC FEE

A. Basic Fees for residents of Pennsylvania, amounting to \$700.00 (\$350 per eighteen-week semester) shall be charged to cover registration and keeping of records of students, library, students' health service (other than extra nurse and quarantine), and laboratory facilities. Checks in these amounts must be made payable to the COMMONWEALTH OF PENNSYLVANIA. Basic Fees for eleven (11) or fewer semester hours of credit during a semester are as follows:

\$29.00 per hour for Pennsylvania residents

\$46.00 per hour for out-of-state students

For the summer sessions, Basic Fees are determined by the semester hour rates indicated above, with a minimum fee during any session of \$87.00 for Pennsylvania residents and \$138.00 for out-of-state students.

B. Fees for Out-of-State Students. A student who does not have a Pennsylvania domicile is classified as out-of-state and must pay \$46.00 per semester hour. The amounts for the Activity Fee, Room and Board charges, and costs of books and supplies are the same as for students who are Pennsylvania residents. Domicile is defined as the place where one intends to and does in fact permanently reside. Determination of Pennsylvania domicile is made on the basis of documentary evidence, statements from disinterested persons and the presumptions set forth below:

1. Continuous residence in Pennsylvania for a period of 12 months prior to registration creates a presumption of domicile.
2. A person attempting to establish domicile must have citizenship or proof of intention to become a citizen or must have been admitted to the United States on an Immigrant Visa.
3. A married woman is presumed to have the domicile of her husband.
4. A minor is presumed to have the domicile of parent(s) or guardian.
5. A member of the Armed Forces who was domiciled in

Pennsylvania immediately preceding entry into government service and who has continuously maintained Pennsylvania as a legal residence, will be presumed to have a Pennsylvania domicile.

6. A student receiving a scholarship or grant dependent upon domicile, from a state other than Pennsylvania, is not domiciled in Pennsylvania.

Examples of factors which may provide convincing documentary evidence includes purchase or lease of a permanent independent residence, payment of appropriate state and local taxes, transfer of bank accounts, stock, automobile, and other registered property to Pennsylvania, driver's license, agreement for permanent full time employment, membership in organizations, voter's registration, statement of intention to reside indefinitely in Pennsylvania, statement from parent(s) or guardian setting forth facts to establish minor's financial independence and separate residence.

A student may challenge residency classification by filing a written petition with the Business Office. If a student is not satisfied with the decision of the Business Office, an appeal may be made to the Vice President for Finance. If the answer is still unsatisfactory, a student may take a written appeal to the office of the Secretary of Education. His decision on the challenge shall be final.

C. Part-Time and Summer School Fees

For Pennsylvania residents: \$29.00 per semester hour (minimum fee \$87.00).

For out-of-state students: \$46.00 per semester hour (minimum fee \$138.00).

Activity fees for all students are \$6.00 per six-week session and \$3.00 per three-week session.

Board, room, and linen service is \$120.00 per six-week session and \$60.00 per three-week session.

Books and Supplies are estimated at \$30.00 per six-week session and \$20.00 per three-week session.

III. HOUSING FEES (Private residence hall charges may vary.)

- A. For board, furnished room, heat, light, and limited laundry the charge will be \$720.00 for the academic year. No reduction shall be allowed for absences from the college.
- B. Students are responsible for damage, breakage, loss, or

delayed return of college property. The charges shall be equal to the extent of the loss.

- C. The rental contract for college residence halls shall be for the semester, mid-term graduates or student teachers excluded.
- D. For students rooming off campus in private homes or off-campus residence halls and boarding in the college dining room, board shall be \$162.00 per semester and \$9.00 per week during the summer sessions.
- E. Cost of meals for transients: breakfast, 60¢; lunch, 85¢; dinner, \$1.25.
- F. Transient lodging fee: \$3.00 plus tax per night per person.

IV. MISCELLANEOUS FEES

- A. Deposits. Students who plan to return to college in September must reserve a place at the college by pre-paying a non-refundable Student Activity Fee of \$35.00 not later than April 20. Certified check or money order should be payable to Clarion Students' Association. The student's name should be printed in the lower left corner of the check or money order. PLEASE DO NOT MAIL CASH. Residence Hall students are required to make a non-refundable deposit of \$50.00 to reserve a room for the fall semester. Payment must be by certified check or money order. Information concerning this deposit will be received from the Office of the Dean of Students. Application for admission as either freshman or transfer student must be accompanied by a \$10.00 fee to cover the cost of processing, interviewing, and admission. The fee will not be credited to the student's account as a part payment of basic, housing, or other fees. An additional fee of \$35.00 must be paid upon receipt of notice of approval of the application. This \$35.00 fee is not refundable, but will be applied to the student's basic fee upon registration. Certified checks or money orders for these amounts must be drawn to the Commonwealth of Pennsylvania.
- B. Diploma Fee. A fee of \$5.00 is paid by each degree candidate to cover the cost of executing his diploma.
- C. Late Registration Fee. Each student registering after the date officially set for registration will be required to pay a late registration charge of \$10.00. The same regulation shall apply to students who do not complete registration

on assigned days. When permission for late registration has been secured from the Business Manager because of illness or any other unavoidable cause, this fee may be waived. Registration is not complete until all fees are paid.

- D. Medical Service Fees. A charge of \$3.00 per day will be assessed to students without a food contract at Chandler Dining Hall to cover the cost of meals while the student is in the infirmary. Students will be charged for any medicines not stocked by the infirmary. They have the privilege of employing their own physician at personal expense if they desire. If in the case of a serious illness or injury, the college physician or nurse believes that transportation is necessary to the infirmary or to a local or home hospital, such transportation will be provided by ambulance, but the expense must be borne by the student.
- E. Schedule Change Fee. A student requesting a change of course or courses during Drop—Add Week is charged \$2.00.
- F. Transcript Fee. One copy of a transcript of credits earned at Clarion State College will be issued free of charge. A charge of \$1.00 is made for each subsequent transcript. Persons desiring to have their credits transferred to another institution should give the name and address of such institution. Transcripts will not be issued to anyone who has unpaid bills, library fines, or damage fees on his account.
- G. Student Community Building Fee. This non-refundable fee is mandated by State law to retire the general obligation bonds for the Riemer Student Community Building. The fee is \$10.00 per semester for students taking 10 or more credits. For part-time students, the fee is pro-rated as follows: 7—9 credits \$5.00, 1—6 credits \$2.50 per semester. For summer sessions the fee is \$1.00 per three-week session and \$2.00 per six-week session.

V. PRIVATE MUSIC INSTRUCTION FEES

Students enrolled in Music Education pay no extra fees for required private music instruction in voice, piano, band, or orchestral instruments nor for use of pianos or other instruments for practice.

For all students other than those in Music Education, the charge for private lessons in voice, piano, band, or orchestra

instruments is \$32.00 per semester for one lesson per week. Rental of a piano for practice one period per day is \$6.00 per semester. Rental of band or orchestral instruments is \$8.00 per semester. These fees are pro-rated for summer sessions.

VI. PAYMENT OF FEES

ALL FEES MUST BE PAID IN ADVANCE AND NO STUDENT AGAINST WHOM THERE ARE ANY UNPAID CHARGES SHALL BE ALLOWED TO ENROLL, GRADUATE, OR RECEIVE A TRANSCRIPT OF RECORD.

When a check is presented covering fees, the student is responsible to see that funds are available when the check is presented for payment at the bank. If an uncollectible check is returned by the bank, the Department of Education Return Check Recovery Section will notify you that your check was uncollectible, add a \$10.00 penalty, and request that a certified check or money order be sent within ten (10) days. Furthermore, any student that has a delinquent account, either because of non-payment of fees or due to the writing of a worthless check for payment of same will not be permitted to attend classes or receive current grades or transcripts until all accounts are paid in full.

VII. REFUNDS

Refunds are not granted on an automatic basis. A student eligible for a refund must officially withdraw through the Academic Affairs Office and also submit a written request to the Business Office.

Upon request, a full refund of fees paid in advance will be granted to students who have been dismissed from college for academic reasons.

No refund or credit will be allowed full-time students or part-time students (students taking 11 or less credits) who voluntarily reduce their number of scheduled credits.

Partial refunds, or credits, will be granted to students who have made an official withdrawal from college based upon a percentage of the fees paid according to the following schedule.

SEMESTER WITHDRAWAL

1st and 2nd week	80% Refund
3rd and 4th week	60% Refund
5th and 6th week	40% Refund
After 6th week	0% Refund

Summer Session —
Six Week Session

Summer Session —
Three Week Session

1st week 60% Refund
2nd week 40% Refund
After 2nd week . . 0% Refund

1st week 60% Refund
After 1st week . . 0% Refund

All basic fees, special fees, housing fees, dining privileges, and activity fees are due and payable on a full semester basis upon registration. The college does not defer payment. Students who cannot pay all charges in full at registration should arrange a loan at their bank. A student whose educational expenses are being partially paid by a National Direct Student Loan, Educational Opportunity Grant, or Pennsylvania State Scholarship will be required to pay the balance of the charges due in order to complete registration and avoid the \$10.00 late registration fee. The college does not assume responsibility for charges by privately-owned residence halls or rooming facilities.

FEE CHARGES PER SEMESTER
Subject to Change Without Notice
(Does Not Include Activity Fee)

COMMUTING STUDENTS

Basic	\$350
Student Comm. Bldg. Fee	10
TOTAL	360

RESIDENT STUDENTS*

Basic	350
Student Comm. Bldg. Fee	10
Room, Board, and Laundry	360
TOTAL	720

BOARDING STUDENTS ONLY

Basic	350
Student Comm. Bldg. Fee	10
Meals	162
TOTAL	522

ROOMING STUDENTS ONLY*

Basic	350
Student Comm. Bldg. Fee	10
Room	198
TOTAL	558

*Private residence hall charges may vary

FINANCIAL AID SERVICES

Financial assistance is available to students in the form of scholarships, grants, loans, and employment. Detailed information and necessary application forms may be secured from the Office of Financial Aid. Since the determination of eligibility for assistance is based on an analysis of a current Parents' Confidential Statement, students are encouraged to request their parents to file a completed statement with the College Scholarship Service, Princeton, New Jersey, and designate Clarion State College to receive a copy. Clarion adheres to the college financial aid principles as set forth by the College Scholarship Service.

SCHOLARSHIPS AND GRANTS

PENNSYLVANIA HIGHER EDUCATION ASSISTANCE AGENCY SCHOLARSHIPS. The determination of recipients of these scholarships is made by the Agency. The scholarships vary in amount and are based on the financial need of students. Application forms may be secured from the Agency or from high school guidance counselors.

EDUCATIONAL OPPORTUNITY GRANTS. Federal grants to a maximum of \$1,000 are available to entering freshmen with "exceptional financial need" as defined by regulations of the United States Office of Education. Matching financial assistance designed to provide sufficient funds for a student to complete a college program is provided to designated recipients of Educational Opportunity Grants.

NURSING SCHOLARSHIPS. Federal grants to a maximum of \$1,500 are available to students with "exceptional financial need," as defined by regulations of the U.S. Department of Health, Education, and Welfare, who are enrolled in the Associate Degree Nursing Program. Application forms may be secured from the Office of Financial Aid.

H. W. COLEGROVE SCHOLARSHIP FUND. A trust fund established by Mr. H. W. Colegrove at the First National Bank of Port Allegany provides for two scholarships of \$100 each per year to be awarded to women students from McKean County. Women students from this county may secure information concerning these scholarships from the Office of Financial Aid.

MARIAN RENN MARSHALL FUND. This fund, established as a memorial to Marian Renn Marshall, is designed to provide emergency financial aid to students enrolled in Speech Pathology and Audiology for the facilitation of special projects.

Specific information concerning requirements for obtaining assistance may be secured from the Coordinator of Speech Pathology and Audiology.

ELVINA C. MOYER SCHOLARSHIP FUND. This scholarship fund was established by the will of the late Anna B. Lilly to be financed through income received from funds held in trust. Although the scholarship varies from year to year, it now approximates \$180. A loan equal to the scholarship is available to the designated recipient. The selection of a student to receive the scholarship is made by the faculty of the College.

CLARION STATE COLLEGE SCHOLARSHIP FUND. A number of four-year scholarships of \$100.00 each year (\$400.00 for four years) are available to incoming freshmen. The Financial Aid Committee will select recipients on the basis of high school achievement, entrance examination results, extra-class activities, and personal interviews (for finalists). Applicants for these scholarships must have been accepted for admission to the college. Application forms, which may be secured from the Director of Admissions, must be received by March 1.

HANNAH KENT SCHOFF MEMORIAL SCHOLARSHIP FUND. The Pennsylvania Congress of Parents and Teachers, through the Hannah Kent Schoff Memorial Scholarship Fund, awards four-year scholarships of \$200 each year (\$800 for four years) to one student from each of the State Colleges. The committee responsible for selecting scholarship recipients in each of the colleges will select incoming freshmen on the basis of entrance examination results, high school grades and class rank, high school ratings of personal attributes, extra-class activities, and a personal interview. Applicants for this scholarship must have been accepted for admission by the College. Application forms, which may be secured from the Director of Admissions, must be received by March 1.

OIL CITY ADELPHOI CLUB SCHOLARSHIPS. Two scholarships of \$250 per year are awarded by the Oil City Adelphoi Club to selected students attending Clarion State College on the Venango Campus. Information concerning the scholarships may be obtained from high school guidance counselors or the Secretary of the Oil City Adelphoi Club.

OIL CITY LIONS CLUB SCHOLARSHIP. An annual scholarship of \$250 is awarded by the Oil City Lions Club to a selected student from any Oil City high school or the Cranberry Area High School who attends Clarion State College on the Venango Campus. Information concerning the scholarship may

be obtained from high school guidance counselors or the Secretary of the Oil City Lions Club.

UNITED STATES OFFICE OF EDUCATION TRAINEESHIPS IN SPECIAL EDUCATION. Junior and senior students majoring in Special Education (Mental Retardation) may qualify for these stipend scholarships which provide \$800 stipends and an exemption of fees for senior students and \$300 stipends for junior students. Awards are based upon outstanding promise to the profession of Special Education. Applications are distributed at the Special Education Center during the Spring Semester.

LOANS

NATIONAL DIRECT STUDENT LOAN PROGRAM. This program provides for loans to students who have a demonstrated need for financial assistance and who are in good academic standing. Loans totaling more than \$250,000 were granted to students under this program during the 1972-73 college year.

To be eligible for consideration for a loan, a student must complete an application form, have a current Parents' Confidential Statement on file in the Office of Financial Aid, be a citizen of the United States or have declared his intention to obtain citizenship, be enrolled or accepted for enrollment as a full-time student.

These loans, which are non-interest bearing while a student is enrolled, may not exceed \$1,000 in an academic year. Repayment of the loan may extend over a ten-year period beginning nine months after withdrawal or graduation from the College. Repayments are to be made on a quarterly basis with interest accruing at the rate of three per cent per year. The first quarterly payment of principal and interest is due one year after graduation or withdrawal.

In specified teaching situations, as much as fifteen per cent of the loan may be canceled for each year of teaching. The borrower's obligation to repay the loan is canceled in the event of death or permanent and total disability.

Completed applications for National Direct Student Loans should be submitted to the Office of Financial Aid.

NURSING STUDENT LOAN PROGRAM. This program provides loans to students enrolled in the Associate Degree Nursing Program.

To be eligible for consideration for a loan, a student must complete an application form, have a current Parents' Confidential Statement on file in the Office of Financial Aid, be a

citizen of the United States or have filed intent to become a permanent resident of the United States, be enrolled or accepted for enrollment as a full-time student, and have financial need for the amount of the loan.

These loans, which are non-interest bearing while a student is enrolled, may not exceed \$1,500 in an academic year. Repayment provisions are similar to those for National Direct Student Loans. Cancellation features are also provided.

PENNSYLVANIA HIGHER EDUCATION ASSISTANCE AGENCY GUARANTEED LOANS. Loans to a maximum of \$1500 per academic year for students in good academic standing are generally available from local banks and savings and loan associations. The loans are guaranteed by the Agency. Application forms and detailed information may be secured from the financial institution from which a loan will be requested.

CLARION STATE COLLEGE FOUNDATION REVOLVING LOAN FUND — EMERGENCY LOAN. The Foundation has established an emergency loan fund for educational purposes only which is available to full-time students in good standing. Loans may be granted to a maximum of \$200.00 and must be approved by the Director of Financial Aid. The loans are interest free for six months and thereafter interest is added at the rate of 6 per cent per annum with a minimum interest charge of \$5.00. Loans plus interest are due and payable prior to graduation or withdrawal from College. Application forms may be secured from the Office of Financial Aid.

BOWL LOAN FUND. Income received from a football bowl game in which the Clarion State College team participated several years ago and contributions from friends of the College made possible the establishment of this loan. Short-term loans to a maximum of \$150 are available to students who are in financial need, are enrolled as full-time students with at least fifteen semester hours of credit earned at Clarion State College, and are approved by a coach of a varsity sport, the Director of Athletics, and the Director of Financial Aid. Application forms may be secured from the Office of Financial Aid.

H. W. COLEGROVE EDUCATIONAL LOAN FUND. The will of Mr. H. W. Colegrove provides that the First National Bank of Port Allegany may make loans to college students from an established fund to a maximum of \$200 in any one year with no more than \$500 to any one student during the completion of his college program. The rate of interest is two per cent while the student is enrolled and four per cent per year after withdrawal or graduation. Information concerning this loan

may be secured from the First National Bank of Port Allegany.

CLARION STATE COLLEGE FOUNDATION REVOLVING LOAN FUND — SHORT-TERM SMALL LOAN. The Foundation has also established a short-term small loan fund which is available to full-time students. Loans are granted to a maximum of \$20.00, are interest free and must be repaid within thirty days. The loans are approved by the Director of Financial Aid.

MARY STERRETT MOSES AND ELBERT RAYMOND MOSES, JR., LOAN FUND. This loan fund has been established to provide graduate students majoring in Speech or related areas with an opportunity to borrow interest free a maximum of \$100 per academic year. Information concerning this loan fund may be secured in the Office of Financial Aid.

MARY ANN TRANCE LOAN FUND. Established as a memorial to the late Mary Ann Trance by her college friends and her mother, this fund of \$200 is available to a senior woman student. The loan available from the fund is non-interest bearing and repayable after graduation. Information concerning this loan may be secured from the Office of Financial Aid.

EMPLOYMENT

Employment on a part-time basis is available to the extent that funds are provided for this purpose by the Federal government and the Commonwealth of Pennsylvania. The assignment of students to part-time campus positions is generally based on financial need; however, it should be recognized that such employment will not be sufficient to meet the total expenses of attending college.

FEDERAL WORK-STUDY PROGRAM. The College participates in the Federal Work-Study Program which permits eligible students to work a maximum of 15 hours per week while classes are in session. A limited number of positions are available under this program for full-time employment during vacation periods. Eligibility requirements for employment include United States citizenship, demonstrated financial need as determined by a current Parents' Confidential Statement, and satisfactory academic standing.

STATE EMPLOYMENT PROGRAM. A limited number of part-time positions are available under this program to students with satisfactory academic standing and some financial need. Most student positions are limited to a maximum of 15 hours of employment per week.

COLLEGE CURRICULA

All undergraduate curricula, with the exception of the two-year Associate of Science curriculum in Nursing, lead to a bachelor's degree and have a common area of 61 semester hours in general education. The general education distribution is intended to encourage broad choice within the humanities, the natural sciences and mathematics, and the social sciences for the development of a strong liberal education. Each student should select his general education program carefully in consultation with his faculty adviser.

GENERAL EDUCATION DISTRIBUTION

I SKILL COURSES	13 s.h.
English Composition*	3 s.h.
Mathematics, Logic, or Computer Science	3 s.h.
Speech	3 s.h.
Health and Physical Education	4 s.h.

*Exemption from the requirement in English Composition may be granted by examination. Students who pass the requirement either by examination or a course mark of "C" or above need not schedule an additional composition course. Students receiving a mark of "D" in the required course must take a second course in composition, to be credited to electives in general education.

II HUMANITIES	12 s.h.
To be chosen from two or more of the following fields: Art, Drama, English, Foreign Language (excluding Elementary I, II), Music, Philosophy, Speech.	

III NATURAL SCIENCES and MATHEMATICS	12 s.h.
To be chosen from two or more of the following fields: Biology, Chemistry, Mathematics, Physical Geography, Physical Science, Physics.	

IV SOCIAL SCIENCES	12 s.h.
To be chosen from two or more of the following fields: Anthropology, Economics, History, Political Science, Psychology, Sociology, Geography.	

V ELECTIVES IN GENERAL EDUCATION	12 s.h.
To be chosen from fields listed in Items I, II, III, and IV above or approved general studies electives with the exception that the initial course in English Composition and physical education activities courses may not be credited to general education electives.	

NOTE: A maximum of six semester hours in independent study may be applied in Item V as elective credits in general education, such credits to be scheduled with the approval and direction of the faculty of the appropriate department. In addition, recommended variations within the above general education distribution should be noted in connection with specific curricula.

BUSINESS ADMINISTRATION

OBJECTIVES OF THE CURRICULUM

The curriculum leading to the degree of Bachelor of Science in Business Administration is designed to assist students in arriving at a better understanding of the complex relationships inherent in the rapidly changing world of business, industry, and government; to provide educational experiences that will help students develop their potentialities for leadership and service; to help stimulate the growth of students as individuals and citizens; and to provide a qualitative environment in which educational enrichment can take place.

Supplemented by broad general requirements in the humanities, the social sciences, and the natural sciences, the business curriculum offers a well balanced program of courses in business administration which not only will help to prepare students for careers in business, industry, and government but also will give preparatory training to students who plan to further their education through graduate study in business, economics, or law.

Although there is opportunity to develop some depth in certain areas, such as accounting, computer and quantitative science, economics, finance, management, and marketing, the emphasis in the program is not on deep specialization but rather on the development of analytical ability, intellectual toughness, imagination, the ability to communicate ideas, and adaptability, so that technological change does not render the education obsolete.

ADMISSION AND FEES

Admission to the business administration program is governed by the admissions policy presented on pages 28-31 of this catalog.

All fees and other charges for the business administration program can be found on pages 36-43.

SCHOLARSHIP REQUIREMENTS

The scholarship requirements for business administration students are identical to those of all other students in Clarion State College, summarized on pages 32-34.

THE CURRICULUM

Semester hour credits required for the degree of Bachelor of Science in Business Administration distributed as follows:

General Education:	61
Business Foundation subjects:	24
Business and Economics Electives:	30
Free Electives:	13
Total required for graduation:	128 credits

GENERAL EDUCATION

The general education distribution for all students in the college is presented on page 49. Students majoring in Business Administration should include the specific courses shown below in fulfilling requirements.

- | | |
|---------------------------------------|------------|
| 1. SKILLS | 13 credits |
| Eng. 111: Composition I | |
| Bus. Ad. 102: Computer Principles | |
| SCT. 113: Fundamentals | |
| Health & Physical Education | |
| 2. HUMANITIES | 12 credits |
| 3. NATURAL SCIENCES & MATHEMATICS | 12 credits |
| Math 131: Math. for Bus. & Econ. I | |
| Math 132: Math. for Bus. & Econ. II | |
| Natural Sciences (6 credits) | |
| 4. SOCIAL SCIENCES | 12 credits |
| Econ. 211: Principles of Economics I | |
| Econ. 212: Principles of Economics II | |
| 5. ELECTIVES IN GENERAL EDUCATION | 12 credits |

BUSINESS FOUNDATION SUBJECTS 24 credits

The courses included as *Foundation Subjects* have been selected with three primary objectives in mind: (1) To give students an insight into the major functions of organizations whether they be private business firms or local, state, or federal governmental agencies; (2) To give students an understanding of the major problems within organizations as they pursue their goals; and (3) To assist students in using the insights and methods of the humanities, social sciences, and natural sciences to analyze and illuminate these problems. Each of the Foundation Subjects either deals with an important aspect of organization or provides a tool which can be used in attacking problems that individuals face in organizations.

The following foundation courses are required of all business administration students:

- | | |
|--|-----------|
| 1. ACCOUNTING: | 6 credits |
| Bus. Ad. 151, 152: Financial and Managerial Account- | |

ing. 3 credits each.

2. **ECONOMICS:** 3 credits
Econ. 310: Microeconomic Theory. 3 credits.
Note: Econ. 211, 212: Principles of Economics I, II are prerequisites to the above course.
3. **FINANCE:** 3 credits
Bus. Ad. 370: Financial Management.
4. **BUSINESS LAW:** 3 credits
Bus. Ad. 240: The Legal Environment.
5. **MARKETING:** 3 credits
Bus. Ad. 360: Principles of Marketing.
6. **ORGANIZATION:** 3 credits
Bus. Ad. 220: Principles of Management.
7. **QUANTITATIVE:** 3 credits
Econ. 220: Elements of Statistics.
Note: Econ. 211: Principles of Economics I is prerequisite to Econ. 220.

BUSINESS AND ECONOMICS ELECTIVES 30 credits

Students majoring in Business Administration are required to elect a minimum of 30 credits in business and/or economics courses beyond the prescribed courses in general education and foundation subjects. The electives must be so chosen to meet requirements of one of the areas of concentration. The areas are Accounting, Computer and Quantitative Science, Economics, Finance, Management, and Marketing. The courses required for each area are listed below. The additional courses needed to meet the minimum 30 credits in business and economics courses will be elected in consultation with the student's advisor.

1. ACCOUNTING

- Bus. Ad. 251: Intermediate Accounting. 3 credits
- Bus. Ad. 253: Federal Taxes. 3 credits
- Bus. Ad. 350: Advanced Accounting. 3 credits
- Bus. Ad. 351: Cost Accounting, Controls and Analysis. 3 credits

2. COMPUTER AND QUANTITATIVE SCIENCE

- Bus. Ad. 103: Computer Principles in Business Administration. 3 credits
- Comp. Sci. 201: Computer Science III. 3 credits
- Econ. 323: Statistical Tools of Quantitative Analysis. 3 credits

One course from the following: 3 credits.
 Comp. Sci. 301: Computer Science IV
 Bus. Ad. 420: Operations Research I
 or
 Bus. Ad. 421: Operations Research II

3. ECONOMICS

Econ. 311: Macroeconomic Theory. 3 credits
 Econ. 361: International Economic Relations. 3 credits
 Econ 370: Money and Banking. 3 credits
 Econ. 490: History of Economic Thought. 3 credits

4. FINANCE

Bus. Ad. 471: Securities Analysis. 3 credits
 Bus. Ad. 476: Financial Problems. 3 credits
 Econ. 370: Money and Banking. 3 credits
 Econ. 371: Public Finance. 3 credits

5. MANAGEMENT

Bus. Ad. 321: Organizational Theory and Behavior. 3 credits
 Bus. Ad. 424: Personnel Management. 3 credits
 Bus. Ad. 425: Production Management. 3 credits
 Econ. 410: Managerial Economics. 3 credits

6. MARKETING

Bus. Ad. 361: Marketing Management. 3 credits
 Bus. Ad. 461: Marketing Research. 3 credits
 Bus. Ad. 465: Marketing Problems. 3 credits
 Bus. Ad. 460: Sales Management. 3 credits

FREE ELECTIVES

13 credits

Free electives are available for the student. They may be selected in consultation with the student's advisor in any area of course work offered in the college.

**TYPICAL PROGRAM FOR
 BUSINESS ADMINISTRATION STUDENTS**

1st SEMESTER			2nd SEMESTER		
Eng.	111:	Comp. I 3	Bus. Ad.	152:	Manag. Acctng. 3
Bus. Ad.	151:	Fin. Acctng. 3	Math.	132:	Math for Bus.
Math	131:	Math for Bus.			& Econ. II 3
		& Econ. I 3	Psy.	211:	General Psych. 3
HPE	111:	Health Ed. 2			Humanities 3
Sp.	113:	Fund. of Speech . . . 3			Nat. Science 3
		Nat. Science 3			Phys. Ed. 1
		<u>17</u>			<u>16</u>

3rd SEMESTER

Bus. Ad. 240:	Legal Envir.	3
Econ. 211:	Prin. I	3
Econ. 220:	Elem. of Stat.	3
	Humanities	3
	Gen. Ed. Elective . .	3
	Phys. Ed.	1
		<u>16</u>

Note: Accounting majors will substitute Bus. Ad. 251: Intermediate Accounting for one of the above courses.

5th SEMESTER

Bus. Ad. 360:	Prin. of Mkt.	3
Bus. Ad. 370:	Fin. Mgmt.	3
Econ. 310:	Micro	3
	Bus. Major	3
	Humanities	3
		<u>15</u>

7th SEMESTER

Bus. Major	12
Gen. Ed. Elective . .	3
Free Electives	3
	<u>18</u>

4th SEMESTER

Bus. Ad. 102:	Computer Prin.	3
Bus. Ad. 220:	Prin. of Mgmt.	3
Econ. 212:	Prin. II	3
	Humanities	3
	Gen. Ed. Elective . .	3
	Phys. Ed.	1
		<u>16</u>

Note: Accounting majors will substitute Bus. Ad. 350: Advanced Accounting for one of the above courses.

6th SEMESTER

Bus. Major	9
Psy. 453: Ind. Psych.	3
Gen. Ed. Elective . .	3
	<u>15</u>

8th SEMESTER

Bus. Major	9
Free Electives	6
	<u>15</u>

LIBERAL ARTS AND SCIENCES

OBJECTIVES AND CHARACTERISTICS

The undergraduate program in the arts and sciences at Clarion State College has two fundamental purposes:

1. To provide the student with a broad general education that will enable him to adapt to the complexities of the world in which he must live; that will give him an understanding and appreciation of the intellectual, cultural, and moral forces which have shaped our world; and that will engender in him an intellectual awareness which will make him strive for educational growth throughout his life.
2. To give the student the depth of knowledge in a discipline that will enable him to enter a graduate or professional school or that will provide him with the proper foundations for a career in government, social service, or industry.

To help achieve these objectives the programs of the candidate for the Bachelor of Arts or Bachelor of Science degrees are divided into three categories: (1) **GENERAL EDUCATION**. He completes a series of general education requirements in the Humanities (English, music, art, language, etc.), the Social Sciences (history, political science, economics, etc.), and the Natural Sciences (biology, mathematics, geology, etc.). (2) **AREA OF CONCENTRATION**. He selects an area of concentration in the Humanities, Social Sciences, or Natural Sciences and Mathematics and if he chooses, develops a departmental program in depth with the assistance of an adviser. (3) **ELECTIVES**. He takes a number of electives, in subject areas of his own choice.

Concerned primarily with the intellectual growth, the curriculum in the Liberal Arts and Sciences at Clarion recognizes the individual nature of this growth and the importance of personal ideals and moral values. Consequently, the plan for the curriculum provides a framework within which each student selects his own program with counsel from a faculty adviser.

ADMISSION AND FEES

Admission to the liberal arts and sciences program is governed by the college admissions policy on pages 28-31 of this catalog. The fees for the liberal arts program are the same as those listed on pages 36-43.

SCHOLARSHIP REQUIREMENTS

The scholarship requirements for students in the Liberal Arts

and Sciences are identical with those for all other students at Clarion State College and are summarized on pages 32-34.

THE CURRICULUM

Semester Hours Credit Required for Graduation – 128

PROGRAMS LEADING TO THE DEGREE OF BACHELOR OF ARTS

GENERAL EDUCATION

The following general requirements must be met by all candidates for the Bachelor of Arts except when specified otherwise:

1. ENGLISH COMPOSITION 0-6 credits

Exemption from an initial course in composition may be granted by examination. Students exempting the initial course or passing it with a grade of "C" or higher are not required to complete an additional course in composition. Students receiving the mark of "D," however, shall complete a second course to be credited to ELECTIVES IN GENERAL EDUCATION. (See below.)

2. FOREIGN LANGUAGE 0-14 credits

This requirement may be met in whole or in part by exemption through examination as determined by the Department of Foreign Languages (for which NO credits are granted) or by passing Intermediate II in any of the languages offered by the college. If a student finds it necessary to take ANY or ALL of the required language courses, the credits earned will be credited to ELECTIVES IN GENERAL EDUCATION and FREE ELECTIVES. (See below.)

3. MATHEMATICS, LOGIC, OR
COMPUTER SCIENCE 3 credits

4. SPEECH 3 credits

5. HEALTH AND PHYSICAL EDUCATION 4 credits

6. HUMANITIES 12 credits

At least TWO of the following fields must be represented: art, English, foreign language (excluding Elementary I, II), music, philosophy, speech communication, and theater.

NOTE: This requirement applies only to students whose area of concentration is the Social Sciences or the Natural

Sciences and Mathematics. Students in the Humanities must meet the requirements listed on pages 57-59.

7. NATURAL SCIENCES AND MATHEMATICS 12 credits

At least TWO of the following fields must be represented: biology, chemistry, earth science, mathematics, physical science, and physics.

NOTE: This requirement applies only to students whose area of concentration is the humanities or the social sciences. Students in the natural sciences and mathematics must meet the requirements listed on pages 60-62.

8. SOCIAL SCIENCES 12 credits

At least TWO of the following fields must be represented: anthropology, economics, geography, history, political science, psychology, sociology.

NOTE: This requirement applies only to students whose area of concentration is the humanities or the natural sciences and mathematics. Students in the social sciences must meet the requirements listed on pages 62-64.

9. ELECTIVES IN GENERAL EDUCATION 0-12 credits

To be chosen from the fields listed above except the initial English composition course (Eng. 111) and physical education ACTIVITIES courses.

MAJORS IN THE HUMANITIES

The program for the Bachelor of Arts degree with a major in one of the areas of the Humanities combines a broad requirement in general education with advanced study in at least one of the following disciplines: Art, English, foreign languages, music, philosophy, speech, and theater arts.

In general, the fields within this area are concerned with two things. First, they are concerned with the fundamental purposes, beliefs, and ideals which underlie all human experience and bind it together. The student, therefore, becomes acquainted in depth with the intellectual endeavors, the aesthetic expressions, and the moral strivings that have defined human experience. Second, the Humanities are concerned with aiding the student to acquire the skills, sensitivities, and canons of taste essential to appraising, judging, and creating within his field.

THE PROGRAM

Students Must Complete a Minimum of 54 Credits in the Humanities

A. Area Requirements in General Education

Students who concentrate in the Humanities are required to take a minimum of 12 credits in general education within the humanities in addition to the general requirements in English Composition and speech listed on page 56.

Each of the following fields, except the one which the student has chosen for major emphasis, must be represented: art, English, music, philosophy, and speech communication and theater.

B. Majors

Within the Humanities a student may major in one of the following fields. Since the courses listed are those recommended by the department involved, the student should vary from the listing only in consultation with a departmental adviser.

ART 42 credits

Required: Art 112, 113, 236, 237, 238, 239. The remaining 24 credits are to be taken in consultation with a departmental adviser.

ENGLISH 42 credits

Required

A. English Literature survey (Eng. 221, 222) 6 credits

B. 1. American Literature before 1900
(Eng. 320, 327, 385) 3 credits

2. American Literature after 1900
(Eng. 322, 323, 386) 3 credits

C. English as a language (Eng. 253, 455,
457, 458, 459) 3 credits

D. English Literature before 1600
(Eng. 401, 403, 431, 453, 459) 3 credits

E. English Literature, 1600–1800
(Eng. 411, 416, 426, 427) 3 credits

F. English Literature, 1800–present
(Eng. 291, 312, 323, 333, 353, 441, 443, 444) 3 credits

Electives 18 credits

To be chosen from English Department offerings except Eng. 111,
112, 113, 114, 115.

FOREIGN LANGUAGES 30 credits

French, German, Spanish

Required for all languages: 251, 252 (unless exempted), 255, 256, 351.
Note that 151 and 152 do not count toward the major. Electives: A
minimum of 15 additional credits from courses numbered above 252.

The student will choose 12 additional credits in supplementary courses in the humanities. Strongly recommended supplementary courses: Eng. 253 (English Grammar), Eng. 457 (Introduction to Linguistics), Eng. 458 (History of the English Language), and SCT 312 (General Semantics).

MUSIC 39 credits

Required: Music 135, 136, 235, 236 (Theory of Music I–IV, 16 credits); Music 151, 152, 251, 252 (History and Literature of Music I–IV, 12 credits). The remaining 11 credits are distributed among applied music (8 credits) and an elective (3 credits) to be chosen in consultation with a departmental adviser. Participation in a musical organization, without credit, is required for a minimum of six semesters.

PHILOSOPHY 27 credits

Required: Phil. 111, 212, 255, 256. The remaining 15 credits are electives which should be chosen in consultation with a departmental adviser. Phil. 352 and 353 are recommended electives. The student will choose 15 additional credits in supplementary courses in the humanities.

SPEECH COMMUNICATION 36 credits

Students who elect to concentrate in Speech Communication may select courses from the following: SCT 113, 114, 115, 251, 252, 256, 257, 258, 264, 311, 312, 354, 358, 411, 412, 453, 454, 465, 490, and 491.

THEATER 39 credits

Required: SCT 251, 253, 254, 255, 352, 359. The remaining 21 credits are electives to be chosen from among the following courses: SCT 350, 351, 354, 361, 362, 363, 455, 458, 465, 490, and 491.

SPEECH COMMUNICATION AND THEATER 36 credits

If the student elects to combine concentrations, he is required to take 12 credits from Speech Communication and 12 credits from Theatre; the remaining 12 credits are to be selected from Speech Communication and/or Theater.

AREA MAJOR 42 credits

Instead of majoring in one of the subject fields listed above, a student may meet area requirements by completing a minimum of 54 credits in the Humanities (including the 12 credits in general education specified under "A" above) distributed among the following fields: art, English, foreign language (in addition to the general requirement), music, philosophy, speech communication and theatre. The student must elect a sufficient number of courses on the 300 and 400 levels and promote a scholarly interest in at least one field.

FREE ELECTIVES 20-28 credits

The number of credits in free electives available to a student majoring in the Humanities will vary from program to program. The student should choose his elective courses with the assistance of a faculty adviser.

MAJORS IN THE NATURAL SCIENCES AND MATHEMATICS

The program for a Bachelor of Arts degree with a major in one of the areas of the Natural Sciences and Mathematics combines a broad requirement in general education with advanced study in biology, chemistry, earth science, mathematics, and physics.

The natural sciences are concerned with describing, explaining, and predicting events in the natural world. Work taken in the area is, for the most part, quite specialized, each field having developed a broad body of cumulative knowledge and procedures that are rigorous and analytical. Extensive work taken in the sciences, however, brings the student into contact with both mathematics and some of the other fields in this area. Consequently, students who elect to concentrate in the Natural Sciences and Mathematics should strive both for deep comprehension in a particular field and for an understanding of the problems, procedures, and results of related fields.

THE PROGRAM

Students must Complete a Minimum of 54 Credits in the Natural Sciences and Mathematics

A. Area Requirements in General Education

It is recommended that students majoring in the natural sciences and mathematics meet the foreign language requirement by taking French or German.

Students who concentrate in the natural sciences and mathematics are required to take a minimum of 12 credits in general education in the area. At least two of the following fields must be represented: biology, chemistry, earth science, mathematics, physical science, physics. Students majoring in biology, chemistry, or physics will meet this requirement by taking the required courses supplementary to their major field. (See below.)

B. Majors

Within the Natural Sciences and Mathematics a student may major in one of the subject fields listed below. Variations from the listed patterns should be made only in consultation with departmental advisers.

NOTE: Because of the important sequential nature of the

programs in this area, the student should consult with a departmental adviser at his earliest opportunity to be assured of developing the proper pattern.

BIOLOGICAL SCIENCES 29 credits

Required biology courses: Biol. 153, 154, 201, 202, 203. The remaining credits to be chosen from approved biology electives. Required supplementary courses: Math 171, Chem. 153, 163, 154, 164, 254, 264; Ph. 251, 252.

CHEMISTRY 37 credits

Required: Chem. 151, 152, 161, 162, 251, 252, 352, 354, 355, 356, 357, and 470.

Required supplementary courses: Math 171, 172, 271, 272; Ph. 251, 252 or Ph. 258, 268, 259, 269.

Graduates who have met these requirements will be certified as having completed an approved program as determined by the Committee on Professional Training of the American Chemical Society. Chemistry majors planning to attend graduate school should elect advanced inorganic, organic, or physical chemistry. German is the recommended foreign language.

EARTH SCIENCE 30 credits

Required: E.S. 252, 253, 258, 351; Geog. 352, 451. The remaining 12 credits to be selected from E.S. 260, 261, 271, 353 and Geog. 251, 254, 257, 355, 356, 357, 452, 453, 455, 456, 459.

Required supplementary courses: Math 171, 172.

Substitutions for required courses may be made by arrangement with the department.

MATHEMATICS 40 credits

Required: Math. 171, 172, 271, 272, 371, 372, 471, 472, and 12 credits in electives numbered 300 or higher.

NOTE: Students with adequate preparation are encouraged to seek exemption from one or more of the following courses: Math. 171, 172, 271, 272.

PHYSICS 37 credits

Required: Ph. 258, 259, 268, 269, 351, 361, 352, 362, 353, 363, 354, 364, and 461. The remaining 10 credits to be selected from Ph. 355, 356, 357, 453, 455, and 460.

Required supplementary courses: Chem. 153, Math. 171, 172, 271, 272, and 350.

Recommended electives: Math. 352, 360, 471.

AREA MAJOR

Instead of choosing a specific subject field within the Natural Sciences and Mathematics for major emphasis, a student may elect an area major to meet the 54 credit area requirement. If he does, he must choose one or more courses from each of the fields in the area and a sufficient

number of courses at the 300 or 400 level in one of them to promote a scholarly interest in the field.

C. ELECTIVES

The number of credits in free electives available to a student majoring in the Natural Sciences and Mathematics will vary from program to program. Students should choose their elective courses with the assistance of a faculty adviser.

MAJORS IN THE SOCIAL SCIENCES

The program for a Bachelor of Arts degree with a major in one of the areas of the Social Sciences combines a broad requirement in general education with advanced study in economics, geography, history, political science, psychology, or sociology-anthropology.

The Social Sciences area of concentration is concerned with man and his social environment, with human institutions, and with the modes of procedure by which men live, work, and play together. While the various fields that comprise this area have developed methodologies that are appropriate to the groups of institutions and problems they have selected to explore, they are all so intimately related that competence in a field presupposes a deep familiarity with the area in general.

The particular fields and courses selected will depend largely on the student's interests and needs. Generally, however, each student electing to concentrate in this area should strive: (1) to develop a deep understanding of the problems, principles, and practices of one of the fields in the area; (2) to become competent in the skills that are necessary for various types of work in that field; and (3) to comprehend the interrelationship existing between that field and several others affecting it.

THE PROGRAM

Students Must Earn a Minimum of 54 Credits in the Social Sciences

A. Area Requirements

All students electing to concentrate in the social sciences (except those in psychology, whose area requirements are given below under the departmental listing) are required to take the following courses:

Econ. 211: Principles of Economics I	3 credits
Econ. 212: Principles of Economics II	3 credits
Hist. 111: Ancient and Medieval Civilization	3 credits
Hist. 112: Modern Civilization	3 credits
Hist. 213: U. S. History	3 credits
P. S. 210: Introduction to Political Science	3 credits
P. S. 211: American Government	3 credits
Anth. 211: Anthropology, Psych. 211: General Psychology, or Soc. 211: Principles of Sociology	3 credits
An anthropology, psychology, OR sociology elective	3 credits

B. Within the social sciences a student may emphasize any of the following fields. At his earliest opportunity, the student should consult with an adviser to plan a departmental program which will best fit his interests and needs.

ECONOMICS 30 credits
 Required: Econ. 211, 212 as prerequisites to all other economics courses. The remaining 24 credits are electives which should be chosen in consultation with a departmental adviser.

GEOGRAPHY
 Required: E.S. 111, Geog. 130, 251, 257, 259, 354, 356. The remaining 9 credits are to be elected from Geog. 254, 355, 357, 452, 453, 454, and 459.

Although not required, the following courses are strongly recommended; E.S. 252, 258, 353; Geog. 352; and Math. 171.

HISTORY 30 credits
 Required: Hist. 111, 112, 213, and a 3 credit elective in U.S. History. The remaining 18 credits are history electives, of which, 12 credits must be taken in courses on the 300 and 400 levels.

POLITICAL SCIENCE 24 credits
 Required: P.S. 210, 211. The remaining 18 credits are political science electives.

PSYCHOLOGY
 1. Area Requirements 24 credits
 The student will meet this requirement by taking courses in at least TWO of the following fields: anthropology, economics, geography, history, political science, sociology.

2. Major Field 30 credits
 Required: Psy. 211, 251, 451. The remaining 21 credits are psychology electives which should be chosen in consultation with a departmental adviser.

Strongly recommended supplementary courses: Anth. 211; Biol. 153, 154, 201; Math. 151 and 152 or 171; and Soc. 211, 351.

NOTE: Psy. 222; Educational Psychology may not be counted

toward a major in psychology.

SOCIOLOGY-ANTHROPOLOGY

24 credits

Required: Soc. 211 and/or Anth. 211. If a student chooses to concentrate in anthropology, he must take Anth. 211. The remaining 21 credits are sociology and/or anthropology electives which should be chosen in consultation with a departmental adviser.

AREA MAJOR

24 credits

Instead of majoring in one of the subject fields listed above, a student may meet area requirements by completing a minimum of 54 credits in the Social Sciences (including the 30 credits specified in the Area Requirements listed under "A," above) distributed among the following fields: anthropology, economics, geography, history, political science, psychology, and sociology. The student must elect a sufficient number of courses on the 300 and 400 levels to promote a scholarly interest in at least one field.

C. FREE ELECTIVES

20-28 credits

The number of credits available to a student majoring in the Social Sciences will vary from program to program. Students should choose elective courses with the assistance of a faculty adviser.

PROGRAMS LEADING TO THE DEGREE OF BACHELOR OF SCIENCE

The following requirements must be met by all candidates for the degree of Bachelor of Science except when specified otherwise:

THE FIELD OF BIOLOGY

A. GENERAL EDUCATION

49 credits

1. Skills: 13 credits
See page 49.
2. Humanities: 12 credits
See page 49.
3. Natural Sciences and Mathematics
Requirement absorbed by major
4. Social Sciences: 12 credits
See page 49.
5. Electives in General Education: 12 credits
See page 49.

B. MAJOR AND SUPPLEMENTARY COURSES

64 credits

1. Required courses: Biol. 153, 154, 201, 202, 203 and 12 additional credits from approved electives.

2. Required supplementary courses: Math. 171; Chem. 151, 161, 152, 162, 251, 261, 252, 262; Ph. 251, 252.

3. Elective supplementary courses: 11-12 credits in biology, chemistry, computer science, mathematics, and/or physics.

C. FREE ELECTIVES 15 credits

NOTE: Individual programs will vary to meet occupational objectives, and students should begin advisement immediately upon entrance into the B.S. program.

THE FIELD OF CHEMISTRY

A. GENERAL EDUCATION 49 credits

1. Skills: 10 credits

Same as general education requirement shown on page except mathematics, logic, or computer science requirement is absorbed in the major.

2. Humanities: 12 credits

See page 49.

3. Natural Sciences and Mathematics: Requirement absorbed by major.

4. Social Sciences: 12 credits

See page 49.

B. MAJOR AND SUPPLEMENTARY COURSES 73 credits

1. Required courses: Chem. 151, 152, 161, 162, 251, 252, 352, 354, 355, 356, 357, and 470.

2. Required supplementary courses: Math. 171, 172, 271, 272; Ph. 251, 252 or 258, 268, 259, 269.

3. Concomitant courses: 12 credits to be chosen from the following: Biol. 153, 154, 341, 401, 451, 452; Computer Science – any course; E.S. 252, 260, 261, 271; Mathematics – any course numbered 300 or above; Physics – any course numbered 300 or above.

C. FREE ELECTIVES 21 credits

In order to be certified as having completed an Approved Program as determined by the Committee on Professional Training of the American Chemical Society, a student must complete, in addition to the courses listed in part B above, Chemistry 456 and two additional advanced courses which have prerequisites of physical chemistry.

THE FIELD OF EARTH SCIENCE

- A. GENERAL EDUCATION 61 credits
1. Skills: 13 credits
See page 49.
 2. Humanities: 12 credits
See page 49.
 3. Natural Sciences and Mathematics: 12 credits
To be chosen from the fields of biology, chemistry, mathematics and physics with the following courses recommended: Biol. 153, 154; Chem. 153, 154; Math. 171, 172; Ph. 251, 252.
 4. Social Sciences: 12 credits
See page 49.
 5. Electives in General Education: 12 credits
See page 49.
- B. MAJOR AND SUPPLEMENTARY COURSES 30 credits
1. Required courses: E.S. 252, 253, 258, 351; Geog. 130, 352, 451, 456.
 2. Electives: Minimum of 6 credits in Earth Sciences.
- C. FREE ELECTIVES 37 credits
To be chosen in consultation with adviser.

THE FIELD OF GEOGRAPHY

- A. GENERAL EDUCATION 61 credits
1. Skills: 13 credits
See page 49.
 2. Humanities: 12 credits
See page 49.
 3. Natural Sciences and Mathematics: 12 credits. To be chosen from the fields of biology, chemistry, computer science, mathematics, and physics with the following courses recommended: C.S. 101, 102; Math. 221.
 4. Social Sciences: 12 credits
See page 49.
 5. Electives in General Education: 12 credits
See page 49.
- B. MAJOR AND SUPPLEMENTARY COURSES 30 credits
1. Required courses: E.S. 111; Geog. 130, 251, 259, 451, 455, 456, 459.
 2. Electives: Minimum of 3 credits in Geography
- C. FREE ELECTIVES 37 credits

THE FIELD OF MATHEMATICS

A. GENERAL EDUCATION 55-58 credits

1. Skills: 10 credits
Same as general education requirement shown on page 49. except that the mathematics, logic, or computer science requirement is absorbed in major.
2. Humanities: 12 credits
See page 49.
3. Natural Sciences: 12 credits
At least TWO of the following fields must be represented: biology, chemistry, earth science, physics.
4. Social Sciences: 12 credits
See page 49.
5. Electives in General Education: 9-12 credits
See page 49.

B. MAJOR AND SUPPLEMENTARY COURSES 30-48 credits

1. Electives in Mathematics from upper level courses numbered 300 or above: 24 credits

NOTE: Most students will need Math. 171, 172, 271, 272 AS PREREQUISITES to upper level courses. Students with adequate preparation are encouraged to seek exemptions from one or more of these lower level courses.

2. Supplementary courses: 6-8 credits
At least two courses beyond the introductory level to be chosen from the following fields: biology, chemistry, earth science, physics.

NOTE: An approved list of such courses will be published and updated periodically by the Mathematics Department.

C. FREE ELECTIVES 22-43 credits

The number of free electives available to a student will depend upon the number of exemptions granted for lower level mathematics courses. Students should choose elective courses with the assistance of an adviser.

THE FIELD OF MEDICAL TECHNOLOGY

Medical technologists perform scientific tests in the clinical pathology laboratory that help track down the cause and cure of diseases. The practice of modern medicine would be impossible without the tests performed in the medical lab-

oratory every day. Here, a medical team headed by a pathologist and including medical technologists, other specialists, and technicians work together. The scientific testing of patients' blood, tissues, body fluids, and excretions provide physicians with information necessary to the diagnosis and treatment of disease.

As a result of the growing number and complexity of laboratory tests due to recent advances in medicine, demands for laboratory services have increased tremendously. The laboratory offers a number of career opportunities for women and men, including handicapped persons. Positions are available in hospitals, clinics, physicians' offices, public health agencies, government, industrial and pharmaceutical medical laboratories, and public and private medical research programs.

The Medical Technology Program at Clarion requires 128 semester hours of credit for graduation which includes requirements of the Registry of Medical Technologists of the American Society of Clinical Pathologists, together with those of the college and the hospital laboratory.

The program includes an academic preparation of three years at Clarion and a 12-month course of training in a hospital laboratory approved by the American Medical Association. A student receives the technical training and broad general education necessary to prepare a medical technologist with a scientific background and the ability to think clearly, accurately, and independently. Initiative and professional judgment are required in adapting and utilizing the results of new techniques in medical technology in a variety of laboratory situations.

After successfully completing the prescribed 96 semester hours of credit on the college campus and 32 credits of hospital training, the student will be eligible to receive the Bachelor of Science Degree from Clarion State College and to be examined for certification by the Board of Registry of Medical Technologists of the American Society of Clinical Pathologists.

ON-CAMPUS REQUIREMENTS. Three years.	96 credits
	Sem. Hrs.
1. General Education	37
English Composition	3
Speech	3
Computer Science or Logic	3
Health and Physical Education	4

Humanities		12
At least two of the following fields must be represented: art, drama, English, foreign language, music, philosophy, speech		
Social Science		12
At least two of the following fields must be represented: anthropology, economics, geography, history, political science, psychology, sociology.		
2. Natural Sciences and Mathematics		46
Biol. 153/154	General Biology I and II	8
Biol. 201	Genetics	3
Biol. 203	Cell Biology	3
Biol. 341	General Microbiology	4
Chem. 153/154	General Chemistry I and II	8
Chem. 254	Introductory Organic Chemistry	4
Chem. 352	Techniques and Instruments I	4
Math. 271	College Algebra and Trigonometry	4
Ph. 251/252	General Physics I and II	8
3. Electives		13
Courses may be elected from the humanities, social sciences, and/or from the following: radiation biology, animal physiology, comparative vertebrate morphology, parasitology, developmental biology, immunology, biochemistry.		

HOSPITAL INTERNSHIP. One year 32 credits

The fourth year of preparation is completed in a School of Medical Technology approved by the American Society of Clinical Pathologists and the American Medical Association. Thirty-two semester hours of credit is awarded for this 12-month period of practical and theoretical work in the hospital laboratory. Courses and the time allocated to them vary with hospitals, but programs include units of study in hematology, serology and immunology, urinalysis, clinical chemistry, blood banking, bacteriology, parasitology, mycology, and virology.

Clarion State College is affiliated with schools of medical technology in the following hospitals:

Western Pennsylvania Hospital
(Benedum School of Medical Technology)

Harrisburg Hospital St. Vincent Hospital
Williamsport Hospital Divine Providence Hospital

The College-Level Examination Program (CLEP) offers subject matter examinations in several areas related to medical technology which may be taken by persons with previous experience to receive credit for college-level courses.

THE FIELD OF PHYSICS

- A. GENERAL EDUCATION 34 credits
1. Skills: 10 credits
Same as general education requirement shown on page 49 except that the mathematics, logic, or computer science requirement is absorbed in the major.
 2. Humanities: 12 credits
See page 49
 3. Natural Sciences and Mathematics: Requirement absorbed by major.
 4. Social Sciences: 12 credits
See page 49.
- B. MAJOR AND SUPPLEMENTARY COURSES 70 credits
1. Required courses: Ph. 258, 259, 268, 269, 351, 361, 352, 362, 353, 364, and 461.
 2. Electives in physics: 11 credits to be selected from Ph. 355, 356, 357, 453, 455, and 460.
 3. Required supplementary courses: Chem. 153, 163; Math. 171, 172, 271, 272, 350.
 4. Electives in the Natural Sciences and Mathematics and Computer Science: 9 credits
To be selected from biology, chemistry, computer science, earth science, and mathematics.
- C. FREE ELECTIVES 24-27 credits

FREE ELECTIVES IN LIBRARY SCIENCE FOR LIBERAL ARTS STUDENTS

Regardless of their concentrations, all liberal arts students have a number of free electives which must be taken to complete the 128 credits required for graduation.

Students who wish to do so may elect 12 to 18 credits in

library science courses as part of their free elective program. By taking the following courses, liberal arts graduates may be able to qualify as provisional librarians under the Pennsylvania Public Library Code, and they will have the prerequisite courses required to pursue a graduate degree in library science:

L.S. 257 Basic Reference Sources and Services	3 credits
L.S. 258 Selection of Library Materials	3 credits
L.S. 260 Development and Administration of Libraries	3 credits
L.S. 357 Cataloging and Classification	3 credits

An additional 6 credits may be elected in consultation with the Division of Library Science.

PRE-PROFESSIONAL STUDY IN THE LIBERAL ARTS CURRICULUM

One of the functions of the liberal arts program is to provide pre-professional education for students who plan to enter professional and graduate schools to prepare for the traditional professions of the ministry, law, medicine, dentistry, veterinary medicine, engineering, pharmacy, and college teaching and for the newer professions in business, public administration, social service, and public education. Many professional schools are conducted only at the graduate level and require graduation from college as a condition of entrance. In some cases, the inclusion of specific courses in the undergraduate curriculum is also demanded. In all cases, there is a heavy emphasis on the desirability and necessity of a broad general education.

The requirements for entrance into any of the professional and graduate schools may be met within the limits of the Clarion liberal arts program. To be sure that particular requirements of courses and areas of concentration are met, each student should seek the guidance of his faculty adviser as early in his college career as possible. The student should be familiar both with the general requirements of his chosen field and with the particular requirements of the school he plans to attend. Since it is impossible to generalize very much on the subject of pre-professional courses, the following statements on each of the major areas are intended as guides.

PRE-DENTAL STUDIES

Although it is possible to gain admission to some dental

schools without a bachelor's degree, most now require the degree as a condition of entrance. In any event, the specific prerequisite course requirements are similar to those required by medical schools (See below). The student should thoroughly familiarize himself with the requirements of the dental schools to which he intends to apply and plan his undergraduate program accordingly.

PRE-LAW STUDIES

No particular course of study is required in preparation for law school. In general, the pre-law student should select courses with "intellectual content of substantial value," which "develop a cultured, well-read, thoughtful person with a keen analytical mind." The law student needs a command of written and spoken language and a broad understanding of human institutions and values. Recommended majors are English, history, or one of the social sciences.

LAW SCHOOL ADMISSION TEST. Many law schools require prospective students to take the Law School Admission Test administered several times a year by the Educational Testing Service. A bulletin of information about this test may be obtained from the Educational Testing Service, Box 955, Princeton, New Jersey 08540. The test itself consists of two parts: (1) the morning test which is designed primarily to predict success in law schools (not necessarily in law practice); and (2) the afternoon test of writing ability and general background.

PRE-MEDICAL STUDIES

Although medical schools do not require a bachelor's degree for entrance, over ninety per cent of the students admitted to medical study have one. Most medical schools require the bachelor's degree as a condition for awarding the M.D. degree.

There is not a prescribed pre-medical program. The pre-medical student should therefore select an undergraduate program that will meet the requirements of the medical schools to which he plans to apply. The student should not realistically consider medical school unless his quality point average is at least 3.0. The following science courses at Clarion should be selected:

Chem. 151, 152, 161, 162:	
Inorganic Chemistry I, II	12 credits
Chem. 251, 252: Organic Chemistry I, II	9 credits
Ph. 251, 252: General Physics I, II	8 credits
Biol. 153, 154: General Biology I, II	8 credits

It is not necessary to major in a science department, but the non-science major must do as well in the science courses as do the science majors. Depending upon the requirements of specific medical schools, science electives should be chosen from among the following courses: analytical chemistry, physical chemistry, calculus and analytical geometry, embryology, genetics, comparative morphology, physiology, cell biology and developmental biology. Beyond these subjects, students should broaden their cultural and social backgrounds with courses from other academic fields.

MEDICAL COLLEGE ADMISSION TEST. Many medical schools require applicants to take the Medical College Admission Test authorized by the Association of American Medical Colleges and prepared and administered by the Psychological Corporation, 304 East 45th Street, New York, New York 10017. This test is given twice each year at selected centers throughout the United States and in some foreign countries. Information about the test may be secured from the Psychological Corporation. The test consists of four parts dealing with verbal ability, quantitative ability, general information (non-science fields including art, economics, geography, government, history, literature, music, philosophy, and psychology), and science concepts from basic college courses in biology, chemistry, and physics. The Medical College Admission Test should be taken at the end of the Junior year or the beginning of the senior year.

PRE-PROFESSIONAL STUDIES IN ENGINEERING

Since curricular requirements vary among engineering schools and fields of specialization (chemical, electrical, mechanical, etc.), students planning to transfer to a school of engineering must give careful consideration to the requirements of the institutions to which they intend to apply.

Students should include the courses listed below in their programs at Clarion and should plan to transfer no later than at the completion of their sophomore year.

In most instances, the following program will meet the general education requirements of almost all schools of engineering:

Eng. 111, 113: Composition I, II	6 credits
Math. 171: College Algebra and Trigonometry	4 credits
Math 172, 271, 272: Calculus with Analytic Geometry I, II, III	12 credits
Math. 350: Ordinary Differential Equations	3 credits

Math. 471: Advanced Calculus I	3 credits
Chem. 153, 154, 163, 164: General Chemistry I, II	8 credits
Ph. 251, 252: General Physics I, II	8 credits
Humanities and Social Science courses	18 credits
Health and physical education courses	4 credits

PRE-PROFESSIONAL STUDIES IN PHARMACY

It is possible for a student to transfer to a school of pharmacy following the completion of either the freshman or sophomore year. In all cases, he should carefully check the requirements of the school he wishes to enter. If the student plans two years of pre-pharmacy study at Clarion, he should include the following courses in his program:

Eng. 111, 113: Composition I, II	6 credits
Chem. 151, 152, 161, 162: Inorganic Chemistry I, II	12 credits
Chem. 251, 252: Organic Chemistry I, II	9 credits
Biol. 153, 154: General Biology I, II	8 credits
Ph. 251, 252: General Physics I, II	8 credits
Math. 171: College Algebra and Trigonometry	4 credits
Math. 172: Calculus with Analytic Geometry I	4 credits
Humanities and social science courses	18 credits

PRE-PROFESSIONAL STUDIES IN VETERINARY MEDICINE

A minimum of two years of liberal arts education is usually required for entrance into a school of veterinary medicine. Three or four years are preferred. In general, the specific course requirements are the same as those of the medical schools. English, biology, physics, inorganic and organic chemistry must be included. Genetics, mathematics, economics, and a foreign language are often recommended.

PRE-THEOLOGICAL STUDIES

There is no fixed pattern of pre-seminary studies, but the American Association of Theological Schools recommends that students who are planning to enter theological schools should major in English, philosophy, or history and that their undergraduate programs should include these minimums:

English – literature, composition, speech, and related studies – at least 6 semesters.

History – ancient, modern, and American – at least 3 semesters.

Philosophy – orientation in history, content and method – at least 3 semesters.

Natural Sciences – preferably physics, chemistry, and biology – at least 3 semesters.

Social Sciences – psychology, sociology, economics, and political science – at least 6 semesters.

Foreign Language – one of the following: German or French – at least 4 semesters.

Religion – an introduction to the major religious traditions and theological problems in the context of the principal aspects of human culture.

OTHER REQUIREMENTS

1. A letter from the minister or governing body of the church of which the student is a member, stating that he is in full communion with the church, is of good character, and has the natural talent required for the ministry.
2. A transcript from the undergraduate college showing the completion of the college course and awarding of the degree by an approved college.
3. Some seminaries require the taking of a psychological test.

OTHER TYPES OF PROFESSIONAL TRAINING

Many universities offer graduate professional programs in business administration, public administration, social work, and library service. These programs vary from one to two years in length and confer specialized master's degrees (Master of Business Administration, Master of Public Administration, Master of Social Work, Master of Library Science) upon their successful completion. Graduates of accredited colleges with records satisfactory to the admissions officers of the professional schools are accepted. Specific majors and courses are usually not required. Specialized entrance examinations are sometimes required. In all cases, the student should carefully check the undergraduate requirements of the graduate school he wishes to enter.

Students interested in any of these should consult the Dean of Arts and Sciences concerning the specific requirements of their field of interest.

TEACHER EDUCATION

OBJECTIVES

Eight specialized curricula are offered in professional education: early childhood education, elementary education, library science, music education, public school nursing, secondary education, special education, and speech pathology and audiology. Each curriculum is designed to meet the graduation requirements of the college, the certification requirements of the state, and the accreditation requirements of various professional associations.

Each curriculum has its own particular objectives, and students are advised to explore these with their advisors. In broad terms, however, the several teacher education programs are designed to help each student grow in his ability to:

1. Articulate his thoughts and feelings with clarity, grace and force.
2. Engage in rigorous critical inquiry as he develops a conceptual system with which to understand himself and his world.
3. Define himself as a person and educator with regard to the moral, spiritual, and aesthetic values that condition his life commitments.
4. Acquire the necessary information, knowledge, and intellectual discipline needed to perform his professional tasks.
5. Develop the skills needed for specifying suitable learning goals, for diagnosing learner characteristics, for creating appropriate learning environments and experiences, and for evaluating learner growth and achievement.
6. Engage in inter-personal relationships that are facilitating for himself and for those with whom he works.
7. Give leadership to the field of education.

CURRICULA

Students who enroll in one of the Teacher Education curricula may earn the degree of Bachelor of Science in Education with certification in the following:

CURRICULUM IN EARLY CHILDHOOD EDUCATION to prepare for teaching in the nursery, kindergarten, and primary grades.

CURRICULUM IN ELEMENTARY EDUCATION to prepare for teaching in the kindergarten, primary and intermediate grades.

CURRICULUM IN LIBRARY SCIENCE EDUCATION to prepare for service as school librarian.

CURRICULUM IN MUSIC EDUCATION to prepare for the teaching of music.

CURRICULUM IN PUBLIC SCHOOL NURSING to prepare registered nurses for service as school nurses.

CURRICULUM IN SECONDARY EDUCATION to prepare for teaching in secondary schools.

CURRICULUM IN SPECIAL EDUCATION to prepare for teaching the mentally retarded.

CURRICULUM IN SPEECH PATHOLOGY AND AUDIOLOGY to prepare specialists for service in speech correction to the speech and hearing handicapped.

Students in the above curricula may also take courses which will lead to certification in Safety Education.

CERTIFICATION

INSTRUCTIONAL I CERTIFICATE

Students who complete one of the teacher education curricula of Clarion State College and who are awarded a baccalaureate degree are qualified for the Pennsylvania Instructional I Certificate, valid for three years of teaching. Application for the certificate must be made and the certificate issued before graduates may teach in the public schools of Pennsylvania.

THE PERMANENT COLLEGE OR INSTRUCTIONAL II CERTIFICATE

The Permanent College or Instructional II Certificate requires three years of satisfactory teaching experience on the Instructional I Certificate in the public schools of this Commonwealth and the satisfactory completion of twenty-four (24) semester hours of post-baccalaureate education. Provisional certificates issued prior to July 1, 1969, are valid for three years of teaching or a period of 10 years, whichever comes first. These certificates may be made permanent upon the completion of three years of successful teaching on the certificate and the completion of six credits of post baccalaureate or graduate work if the certificate was issued prior to October 1, 1953; 12 credits if issued between October 1, 1953, and October 1, 1967; and 24 credits if issued between October 1, 1967 and July 1, 1969. A provisional certificate which has not been made permanent within ten years from date of issue may be renewed for an

additional period of ten years upon the completion of 12 semester hours of post baccalaureate or graduate work.

EXTENSION OF CERTIFICATES

A certificate valid for the secondary school may be extended to include the elementary field upon completion of the approved program in the field of elementary education.

A certificate valid for the elementary school may be extended to include a secondary subject upon completion of the approved program in the secondary subject field.

The holder of a certificate valid for the elementary school may have an endorsement of Library Science for the elementary school upon the completion of an approved program in this field. This endorsement is valid only for the elementary school library.

EVALUATION OF CREDITS

Evaluations of credits for students are considered valid only for the year in which distributions are made (year in which credits are earned.) This situation exists because of changes in regulations governing the value of credits and in the requirements for certification and graduation frequently made by the Department of Education, the State Board of Education, and the Board of Presidents of the State Colleges. Students are urged to keep themselves well informed about their distributions by occasional inquiries at the Academic Office at times other than registration periods.

GENERAL REQUIREMENTS

GENERAL EDUCATION

To qualify for graduation, each student must satisfy the general education requirement of the college, which specifies the completion of sixty-one semester hours of credit in accord with the distribution presented on page 49.

PROFESSIONAL EDUCATION

Candidates for certification in a teaching field must complete the professional requirements for that field, as indicated below.

Early Childhood Education, see page 83.

Elementary Education, see pages 81-83.

Library Science Education, see page 86.

Music Education, see pages 101-104.

Public School Nursing, see page 104.

Secondary Education, see page 86.

Special Education, see page 105.

Speech Pathology and Audiology, see page 107.

AREAS OF SPECIALIZATION

Secondary majors must complete the requirements for a field of certification as outlined in the section entitled Course Distributions. It should be noted that methods courses can not be counted toward completion of an academic requirement.

Library Science majors will complete requirements for Library Science Certification and also a minimum of 18 semester hours in a second field.

STUDENT TEACHING

Those who major in secondary education are assigned to student teaching upon completion of at least 80 credits and certain course requirements. Each secondary major will receive an assignment for a full day of student teaching throughout one semester at one of the public school student teaching centers cooperating with the college.

Secondary students majoring in Library Science are assigned to student teaching upon completion of at least 80 credits and specified course requirements. Two major assignments are required: the equivalent of one half semester in public school library practice and the equivalent of one half semester in classroom academic teaching at one of the public school teaching centers cooperating with the college.

Those who major in elementary education are assigned to student teaching upon completion of at least 80 credits and specified course requirements. Each elementary major will receive an assignment for a full day of student teaching throughout one semester at one of the public school elementary student teaching centers associated with the college. For elementary majors with the 18 semester hour concentration in Library Science, the semester's program in student teaching is divided into two student teaching assignments involving experience at one grade level and an elementary school library.

Student teachers will be assigned where they can be accommodated, without special consideration of their place of permanent residence.

Student teachers are encouraged to reside throughout the semester in the community in which their student teaching center is located.

All student teaching assignments follow the public school calendar rather than the college calendar each semester.

The final grade in student teaching will be recommended by the cooperating teacher in consultation with the College

supervisor and will be finally approved and reported by the College supervisor.

Student teachers must meet college requirements prior to assignment.

Public School Student Teaching Centers

Allegheny-Clarion Valley School District, Foxburg, Pennsylvania 16036
Ambridge Area School District, Ambridge, Pennsylvania 15003
Apollo-Ridge School District, Apollo, Pennsylvania 15613
Armstrong School District, Box 351, Ford City, Pennsylvania 16226
Avonworth School District, Pittsburgh, Pennsylvania 15202
Big Beaver Falls Area School District, Beaver Falls, Pennsylvania 15010
Bradford Area School District, Bradford, Pennsylvania 16701
Brockway Area School District, Brockway, Pennsylvania 15824
Brookville Area School District, Brookville, Pennsylvania 15825
Butler Area School District, Butler, Pennsylvania 16001
Cameron County School District, Emporium, Pennsylvania 15834
Churchill Area School District, Pittsburgh, Pennsylvania 15221
Carlynton School District, Carnegie, Pennsylvania 15106
Clarion Area School District, Clarion, Pennsylvania 16214
Clarion Limestone Area School District, R.D. 1, Strattanville, Pennsylvania 16258
Clarion Manor Intermediate Unit, Clarion, Pennsylvania 16214
Clearfield Area School District, Clearfield, Pennsylvania 16830
Cranberry Area School District, Seneca, Pennsylvania 16346
Cresson State School and Hospital, Cresson, Pennsylvania 16630
Curwensville Area School District, Curwensville, Pennsylvania 16833
Deer Lakes School District, Box 127, Russellton, Pennsylvania 15076
DuBois Area School District, DuBois, Pennsylvania 15801
Easter Seal Society for Crippled Children and Adults of Butler County, Inc., Butler, Pennsylvania 16001
Ebensburg State School and Hospital, Ebensburg, Pennsylvania 15931
Forest Area School District, Tionesta, Pennsylvania 16353
Fox Chapel Area School District, Pittsburgh, Pennsylvania 15238
Franklin Area School District, Franklin, Pennsylvania 16323
Freeport Area School District, Freeport, Pennsylvania 16229
Glendale School District, R.D., Flinton, Pennsylvania 16640
Hampton Township School District, Allison Park, Pennsylvania 15101
Hempfield Area School District, R.D. 6, Greensburg, Pennsylvania 15601
Hickory Township School District, Sharon, Pennsylvania 16146
Highlands School District, Tarentum, Pennsylvania 15084
Johnsonburg Area School District, Johnsonburg, Pennsylvania 15845
Kane Area School District, Kane, Pennsylvania 16735
Karns City Area School District, Karns City, Pennsylvania 16041
Keystone School District, Knox, Pennsylvania 16232
Kiski Area School District, Vandergrift, Pennsylvania 15690
Lawrence County Society for Crippled Children and Adults, Inc., New Castle, Pennsylvania 16101
Leechburg Area School District, Leechburg, Pennsylvania 15656

Lenape Area Vocational-Technical School, Ford City, Pennsylvania 16226
 Marion Center Area School District, Marion Center, Pennsylvania 15759
 Mars Area School District, Mars, Pennsylvania 16046
 McKeesport Area School District, McKeesport, Pennsylvania 15132
 Midwestern Intermediate Unit, Grove City, Pennsylvania 16127
 Moniteau School District, R.D. 2, West Sunbury, Pennsylvania 16061
 New Castle Area School District, New Castle, Pennsylvania 16101
 New Kensington-Arnold School District, New Kensington, Pennsylvania
 15068
 North Allegheny School District, Pittsburgh, Pennsylvania 15237
 North Clarion County Schools, Leeper, Pennsylvania 16233
 Northgate School District, Pittsburgh, Pennsylvania 15202
 North Hills School District, Pittsburgh, Pennsylvania 15229
 Northwest Tri-County Intermediate Unit, Erie, Pennsylvania 16507
 Oil City Area School District, Oil City, Pennsylvania 16301
 Penn Hills School District, Pittsburgh, Pennsylvania 15235
 Pittsburgh Public Schools, Pittsburgh, Pennsylvania 15213
 Polk State School and Hospital, Polk, Pennsylvania 16342
 Punxsutawney Area School District, Punxsutawney, Pennsylvania 15767
 Quaker Valley School District, Sewickley, Pennsylvania 15143
 Redbank Valley School District, New Bethlehem, Pennsylvania 16242
 Ridgway Area School District, Ridgway, Pennsylvania 15853
 Riverview School District, Oakmont, Pennsylvania 15139
 Rochester Area School District, Rochester, Pennsylvania 15074
 Sharon City School District, Sharon, Pennsylvania 16146
 South Butler County School District, Saxonburg, Pennsylvania 16056
 Southwest Butler County School District, R.D. 1, Harmony, Pennsylvania
 16037
 St. Marys Area School District, St. Marys, Pennsylvania 15857
 St. Vincent Hospital, Erie, Pennsylvania 16512
 Titusville Area School District, Titusville, Pennsylvania 16354
 Union School District, Rimersburg, Pennsylvania 16248
 Valley Grove School District, Franklin, Pennsylvania 16323
 Warren City Schools, Warren, Ohio 44482
 Warren County School District, Warren, Pennsylvania 16365
 Westmoreland Intermediate Unit, Greensburg, Pennsylvania 15601

PROGRAM REQUIREMENTS ELEMENTARY EDUCATION

GENERAL EDUCATION

In satisfying general education requirements (see page 49), it is strongly recommended that elementary majors schedule the following courses unless exempted by examination or departmental approval: In the Skills area – English 111 or 113; Health and Physical Education 111, 223, and one other activities course; Mathematics 111; and a speech course. In other general education areas – Art 231, Music 131, and Psychology 211. In

selecting all electives for the general education distribution, students should note the Program Approval standards of the Pennsylvania Department of Education require competency in areas taught in the elementary school; therefore, Elementary Education majors are advised to schedule courses or demonstrate competency through examination in art, biological science, English composition, earth science, literature, geography, health, music, physical science, psychology, political science, Pennsylvania and U. S. history, and a study of world civilization. A listing of courses recommended in various areas is available in the Elementary Education Office and from elementary advisers.

PROFESSIONAL EDUCATION

The following courses are required of all elementary majors:

			c.h.	s.h.
Art	222	Teaching Art in Elementary Grades	3	3
Ed.	329	Audio-Visual Education	3	2
El. Ed.	110	Introduction to Elementary Education	4	3
El. Ed.	326	Reading Problems in the Elementary School	3	3
Mus.	132	Literature and Materials of Music II E	3	3
Psy.	222	Educational Psychology	3	3
El. Ed.	422	Professional Practicum and School Law	2	2
El. Ed.	424	Student Teaching	30	12

NOTE: Students who elect a concentration in Library Science are required to take El. Ed. 423; Library Practice — 6 semester hours and El. Ed. 424; Elementary Student Teaching — 6 semester hours.

PROFESSIONAL CORE

The professional core should be taken in the 5th or 6th semester; student teaching in the semester following:

			c.h.	s.h.
El. Ed.	323	Teaching of Reading	3	3
El. Ed.	324	Teaching of Elementary School Mathematics	3	3
El. Ed.	325	Modern Curriculum and Methods	5	5
El. Ed.	331	Children's Literature	3	3
Sci. Ed.	322	Teaching Science in Elementary School	3	3

TYPICAL PROGRAM FOR ELEMENTARY EDUCATION MAJORS

1st SEMESTER			2nd SEMESTER		
Eng.	111 or			Speech	3
	113:	English Composition	3	El. Ed. 110:	Intro. to El.Ed.
Math.	111:	Basic Mathematics	3	HPE 111:	Health
		General Education	9		General Education
		H.P.E. Activity	1		
			<u>16</u>		<u>17</u>

3rd SEMESTER	
Psych.	111: General Psych. 3
HPE	223: Physical Education . 1
	General Education <u>12</u>
	16

5th SEMESTER	
Psych.	222: Educ. Psych. 3
Ed.	329: Audio-Visual 2
Art	222: Teaching Art 3
	Academic Elective . 8
	<u>16</u>

7th SEMESTER	
El. Ed.	424: Student Teaching . 12
El. Ed.	422: Prof. Prac. & Sch. Law 2
	<u>14</u>

4th SEMESTER	
	General Education . . 12
	Academic Elective . . 6
	<u>18</u>

6th SEMESTER	
El. Ed.	323: Teaching Reading . . 3
El. Ed.	324: Teaching Math 3
El. Ed.	325: Mod. Curr. 5
El. Ed.	331: Children's Lit. 3
Sci. Ed.	322: Teaching Science . . 3
	<u>17</u>

8th SEMESTER	
El. Ed.	326: Reading Prob. 3
	General Education . 6
	Academic Elective . 7
	<u>16</u>

EARLY CHILDHOOD EDUCATION OPTION

Students admitted into the Early Childhood Education program will receive dual certification when graduated from the program and approved by the staff of the Department of Education. They will be eligible to receive the regular Elementary teaching certificate and the Early Childhood Education teaching certificate. Students who desire to be in the Early Childhood program must also be enrolled in the Elementary Education program. During the sophomore year, formal application is made to the staff of the Department of Education for acceptance into the program. Approximately 40 students will be chosen each year from among the applicants. The students selected must complete all of the general education requirements of the Elementary Education program, enroll in the primary sections of the Professional Core courses, and complete a concentration of courses in Early Childhood Education. A list of courses or competencies in the concentrations will be available in the office of the Department of Education.

ELECTIVE CREDITS

Elementary Education majors have a number of elective credits which they can use in a number of ways — to pursue areas of personal interest, to gain strength in several academic areas, to enhance their professional competence, or to elect an area of academic concentration. Students who choose an academic concentration must have at least 18 semester hours of credit for a single subject concentration and 24 semester hours of credit for a broad area concentration. While students should consult with their advisers regarding elective credits, the following course distributions provide general guidelines for students who choose to elect an academic concentration.

ACADEMIC CONCENTRATIONS FOR ELEMENTARY MAJORS

ART

Required: Art 222, 231.

Electives: (12 sem. hrs.) Art 112, 113, 232, 233, 234, 235, 236, 237, 240, 300, 301, 311, 313, 315, 316.

BIOLOGY

Required: Biol. 153, 154 or 111.

Electives: (12 to 15 hrs.) Biol. 202, 230, 351, 353, 354, 356, 357, 358.

CHEMISTRY/PHYSICS

Required: Chem. 153 and 163 (lab), 154 and 164, 254 and 264, Physics 251, 252.

Ph. Sci. 111 and Ph. Sci. 112 will not be required of students selecting this concentration.

EARLY CHILDHOOD EDUCATION

Required: El. Ed. 231, 332.

Electives: (Choose one from each of the four areas) Psy. 311 or El. Ed. 321; Art 233 or 235 or 313; Soc. 351 or 352; Music 231 or 232, or 233.

ELEMENTARY SCHOOL LIBRARIANSHIP

Required: L.S. 256, 257, 258, 357, 358, 359.

ENGLISH

Required: Eng. 111 or 151; 253.

Electives: (12 sem. hrs.) 151, 211, 212, 221, 222, 291, 320, 321, 322, 323, 385, 386, 451, 452, 457, 458.

EXCEPTIONAL CHILDREN AND YOUTH

Required: Sp. Ed. 111, 220; SPA 455, 460.

Electives: (6 hrs.) By advisement.

FOREIGN LANGUAGE

French, German, Russian, or Spanish:

Elementary I and II (151-152); Intermediate I and II (251-252); Civilization I and II (255-256).

Students who have been exempted from 151-152 by virtue of previous study in high school will be required to have 6 hours of electives in their foreign language concentration.

GEOGRAPHY

Required: E.S. 111; 254 or 257.

Electives: (12 hrs.) Two courses in topical Geography and two courses in regional Geography.

Suggested topical courses: Geog. 251, 254, 255, 259, 352, 354, 454.

Suggested regional courses: Geog. 256, 257, 355, 356, 357, 452, 453.

GEOLOGY-GEOGRAPHY BROAD FIELD

Required: E.S. 111, 253, 258, 260, 351, 352, 353; Geog. 354.

HEALTH AND PHYSICAL EDUCATION

Required: HPE 112, 113, 210, 211, 224, 310, 313, 324.

Electives: (1 or 2 hours) HPE 325, 410, 413, 414

HISTORY

Required: Hist. 111, 112, 213.

Electives: (9 hours) By advisement.

LIBRARY SCIENCE

See Curriculum in Library Science.

MATHEMATICS

Required 111.

(Choose 5 of the following 10 electives.)

Highly Recommended Electives: Math. 211, 212, 213, 214.

Electives: Math. 112, 131, 150, 151, 221.

MUSIC

No specific courses are required for a Music concentration because of the differences in background and the differences in specific goals of the students who elect this concentration. The Department of Education has requested that all state colleges offering a concentration in Music develop a program which will meet the individual's needs and goals and at the same time will include, as far as possible, courses from five distinct areas of music. These five areas are:

1. Technical courses (theory, etc.)
2. History and literature of music
3. Professional techniques
4. Applied music
5. Music organizations

NATURAL SCIENCES BROAD FIELD

Required: Sci. 111, 112, Biol. 111, E.S. 111.

Electives: (9-12 hours) Biol. 202 or 351, Geog. 252, 351, 353.

PHILOSOPHY

Required: Phil 211, 255, 256.

Electives: (9 hours) By advisement.

POLITICAL SCIENCE

Required: P.S. 210, 211.

Electives: (12 hours) By advisement.

PSYCHOLOGY

Required: Psy. 211, 222, and 331.

Electives: (9 hours) By advisement.

Recommended courses: Psy. 251 and 311.

SPEECH COMMUNICATION AND THEATER

Required: SCT 113, 251, 354, 252, 455.

Electives: (By advisement 3-9 sem. hrs.)

SOCIAL STUDIES BROAD FIELD

Required: Econ. 211; Hist. 111, 112, 213; Pol Sci. 210, 211; Soc. 211.
Electives: (3 semester hours)

SOCIOLOGY-ANTHROPOLOGY BROAD FIELD

Required: Soc. 211; Anth. 211.
Electives: (18 semester hours)

SECONDARY EDUCATION

General Education

In satisfying the general education requirement (see page 49), it is strongly recommended that all secondary education majors schedule the following courses unless exempted by examination or departmental approval: In the Skills area — English 111, Health and Physical Education 111, and Speech Communication and Theatre 113. In the Social Sciences area — Psychology 211. Some areas of certification specialization make additional recommendations which the student may note in the following pages or obtain from his adviser.

Professional Education

The following courses are required of all secondary education and Library Science majors:

			c.h.	s.h.
Ed.	223	Social Foundations of Education	3	3
		Select course in Methods and Evaluation in field of Specialization	3	3
Ed.	329	Audio-Visual Communication	3	2
Psy.	222	Educational Psychology	3	3
Psy.	321	Psychology of Adolescence	3	3
Ed.	422	Professional Practicum Including School Law	2	2
Ed.	424	Secondary Student Teaching	30	12

NOTE: LIBRARY SCIENCE MAJORS

All professional courses listed above are requirements for Library Science majors except Ed. 422 and 424, for which the following are substituted:

			c.h.	s.h.
Ed.	423	Library Practice	15	6
Ed.	424	Secondary Student Teaching	15	6

TYPICAL PROGRAM FOR SECONDARY EDUCATION MAJORS

1st SEMESTER		2nd SEMESTER	
Eng. 111:	English Composition .. 3	SCT. 113:	Speech Fundamentals . 3
	Math (Logic)		General Education 9
	Comp. Sci. 3		Major Field or Elect. . 3
HPE 111:	Health 2		Phys. Ed. Activity 1
	General Education 9		<u>16</u>
	<u>17</u>		
3rd SEMESTER		4th SEMESTER	
Psych. 211	General Psych. 3	Psych. 222:	Educational Psych. 3
	General Education 6		General Education 9
	Major Field or Elect. . 6		Major Field or Elect. . 3
	Phys. Ed. Activity 1		<u>15</u>
	<u>16</u>		
5th SEMESTER		6th SEMESTER	
	General Education 3	Ed. 223:	Social Foundations 3
	Major Field or Elect. . 12	Ed. 329:	Audio-Visual Com. 3
	<u>15</u>		Methods Course 3
		Psych. 321:	Adolescent Psych. 3
			Major Field or Elect. . 6
			<u>18</u>
7th SEMESTER		8th SEMESTER	
	General Education 9	Ed. 422:	Prof. Prac. & Sch. Law . 2
	Major Field or Elect. . 9	Ed. 424:	Student Teaching 12
	<u>18</u>		<u>14</u>

SECONDARY CERTIFICATION SPECIALIZATION

Secondary education majors may choose areas of specialization from the approved programs below. Curriculum requirements are noted for each area of specialization.

BIOLOGY – 50 Semester Hours

REQUIRED:		c.h.	s.h.
Biol.	153 General Biology I	6	4
Biol.	154 General Biology II	6	4
Biol.	201 Genetics	5	3
Biol.	202 Environmental Biology	5	3
Biol.	203 Cell Biology	5	3
Chem.	153 General Chemistry I	6	4
Chem.	154 General Chemistry II	6	4
Chem.	254 Introductory Organic Chemistry	6	4
Math.	171 College Algebra and Trigonometry	4	4
Ph.	251 General Physics I	6	4
Ph.	252 General Physics II	6	4
ELECTIVE: (Three required)			
Biol.	204 Developmental Biology	5	3
Biol.	341 General Microbiology	8	4
Biol.	351 Field Botany	5	3

Biol.	352	Taxonomy of Vascular Plants	5	3
Biol.	353	Ornithology	5	3
Biol.	354	Entomology	5	3
Biol.	356	Field Zoology I	5	3
Biol.	357	Field Zoology II	5	3
Biol.	358	Conservation of Plant and Animal Resources	5	3
Biol.	360	Problems in Biology		1-4
Biol.	401	Radiation Biology	5	3
Biol.	442	Microbial Physiology	6	4
Biol.	444	Immunology	6	4
Biol.	451	Animal Physiology	5	3
G.S.	230	Man in the Biosphere	3	3
Biol.	452	Plant Physiology	5	3
Biol.	460	Comparative Vertebrate Morphology	5	3
Biol.	461	Vertebrate Embryology	5	3
Biol.	462	Histology	5	3
Biol.	470	Animal Ecology	5	3
Biol.	471	Plant Ecology	5	3
Biol.	472	Parasitology	5	3
Biol.	490	Evolution	3	3
	453	Biochemistry	6	4

Mathematics 151 and 152 may be substituted for 171. In meeting general education requirements (see page 49), the distribution in Natural Sciences and Mathematics may be met with supplemental courses from the field of specialization. Students should note that no more than one non-laboratory elective may be included in credits for the major. Students who complete Biol. 111 and subsequently major in biology may receive only two credits each for Biol. 153 and 154 and should consult an adviser in the Biology Department before planning a program.

CHEMISTRY -- 80 Semester Hours

REQUIRED:		c.h.	s.h.
Chem. 151	Inorganic Chemistry I	5	5
Chem. 161	Inorganic Chemistry Lab I	3	1
Chem. 152	Inorganic Chemistry II	5	5
Chem. 162	Inorganic Chemistry Lab II	3	1
Chem. 251	Organic Chemistry I	6	4
Chem. 252	Organic Chemistry II	9	5
Electives numbered 300 or above			9
ELECTIVE:			
Chem. 211	Science and Society	3	3
Chem. 255	Industrial Chemistry	5	3
Chem. 352	Techniques and Instruments I	8	4
*Chem. 354	Physical Chemistry I	3	3

*Chem. 355	Physical Chemistry II	3	3
*Chem. 356	Techniques and Instruments II	6	2
*Chem. 357	Techniques and Instruments III	5	3
*Chem. 359	Advanced Organic Chemistry	3	3
Chem. 361	Qualitative Organic Analysis	5	3
Chem. 453	Biochemistry	6	4
*Chem. 455	Advanced Physical Chemistry	3	3
*Chem. 456	Advanced Inorganic Chemistry	3	3
Chem. 459	Demonstrations in Chemistry	5	3
Chem. 460	Radiochemistry Techniques	4	2
*Chem. 461	Techniques and Instruments IV	4	2
*Chem. 462	Techniques and Instruments V	4	2
*Chem. 465, 466	Chemical Research		1-3
*Chem. 470	Chemical Literature and Seminar	1	1
**Ph. 353/363	Atomic Physics	6	4

*Mathematics 271 and Physics 252 are prerequisites. Majors in the field should understand that Mathematics 271 must be preceded by Mathematics 171 (or 151 and 152) and Mathematics 172; Physics 252 must be preceded by Physics 251.

**Mathematics 272 and Physics 252 are prerequisites.

Students who have taken Chemistry 153 and Chemistry 154 may be permitted, upon consideration of their performance, to substitute these courses for Chemistry 151 and Chemistry 152. A total of 30 semester hours in chemistry must still be taken.

Chemistry majors should not schedule Mathematics 112 or Physical Science 111 or 112 in their general education programs.

COMMUNICATION ARTS

The Communication Arts program represents a new concept in the preparation of prospective teachers of communication-related subjects. It is designed to equip the teacher with the ability to help students make meaning out of their experience through the uses of language and all those behaviors, verbal and nonverbal, associated with the uses of language. The candidate may develop a program that meets his special needs and interests as a potential teacher of English, speech, drama, and other communication subjects. Successful completion of the program leads to the communication certificate.

CORE:		c.h.	s.h.
Eng. 151	Writing About Literature	3	3
Eng. 211 or 212	European Backgrounds and Traditions	3	3
Eng. 221 or 222	English Literature	3	3
Eng. 253	English Grammar	3	3
SCT 200	Communication Theory and Processes	3	3

SCT 120 or 354	Oral Interpretation or Theater Play Production	3	3
SCT Elective	(Non-theater)	3	3

CONCENTRATION:

The student may elect to concentrate in any of the following areas by taking 18 credits in 1 or 9 credits from each of 2: Speech Communication, Composition, Literature, Theater, or Linguistic Sciences. Courses for the concentration must be chosen in consultation with the student's advisor and with the approval of the Communication Council.

GENERAL SCIENCE – 42 Semester Hours

A program specifically designed to prepare students to teach science at the junior high or middle school level. General Science majors are not prepared to teach specialized high school courses such as biology, chemistry, physics, or earth science. Likewise, a Biology, Chemistry, or Physics major is not prepared to teach General Science unless his college program is broadened to include all of the required science courses of the General Science curriculum. A student who desires to teach only specialized courses should major in the specific subject area.

REQUIRED:		c.h.	s.h.
Biol.	153 General Biology I	6	4
Biol.	154 General Biology II	6	4
Chem.	153 General Chemistry I	6	4
Chem.	163 General Chemistry Laboratory I	3	1
Chem.	154 General Chemistry II	6	4
Chem.	164 General Chemistry Laboratory II	3	1
*Ph.	251 General Physics I	6	4
*Ph.	252 General Physics II	6	4
E.S.	252 Physical Geology	3	3
E.S.	351 Meteorology	3	3
E.S.	353 Descriptive Astronomy	3	3

Three (3) additional science courses will be needed to give a minimum of 42 credits. Students, with advisement, may elect courses from one field only, or courses may be distributed among biology, chemistry, or physics.

*Mathematics 171 is a prerequisite. Mathematics 151 and 152 may be substituted for 171. Majors in General Science should not include Biology 111, Mathematics 112, Physical Science 111 and 112, and Earth Science 111 in their general education programs (See page 49).

Since General Science is an interdisciplinary major, students must maintain a quality point average of 2.00 in each of the fields; physics, chemistry, biology, and earth science.

A Biology, Chemistry, or Physics major may receive provisional certification in General Science only if his program of courses has included, satisfactorily, all the basic courses in the General Science curriculum.

EARTH AND SPACE SCIENCE – 48 Semester Hours

REQUIRED:		c.h.	s.h.
E.S.	111 Basic Earth Science	3	3
E.S.	252 Physical Geology	3	3
E.S.	258 Historical Geology	3	3
E.S.	351 Meteorology	3	3
E.S.	353 Descriptive Astronomy	3	3
Electives (See below)			<u>6</u>
			21
Biol.	153 General Biology I	6	4
Biol.	154 General Biology II	6	4
Chem.	153 General Chemistry I	6	4
Chem.	154 General Chemistry II	6	4
Ph.	251 General Physics I	6	4
Ph.	252 General Physics II	6	4
Natural Science Elective			<u>3-4</u>
			27-28
TOTAL			48-49

ELECTIVE:

E.S.	253 Land Forms	3	3
Geog.	259 Map Interpretation	3	3
E.S.	260 Minerals	3	3
E.S.	261 Rocks	3	3
Geog.	352 Climatology	3	3
Geog.	451 Cartography I	5	3
Geog.	455 Cartography II	5	3
Geog.	456 Aerial Photo Interpretation	4	3
Science electives from Biology, Chemistry and Physics.			

In satisfying the general education distribution (see page 49), it is recommended that Earth and Space majors schedule Mathematics 171 and fulfill other credit requirements in the Natural Sciences and Mathematics area with science courses supplemental to the Earth and Space field.

ENGLISH – 42 Semester Hours

REQUIRED:		ch.	s.h.
Eng.	111 Freshman Composition	3	3
Sp.	113 Fundamentals of Speech	3	3
Eng.	211 European Backgrounds and Traditions I	3	3

Eng.	212 European Backgrounds and Traditions II	3	3
Eng.	221 English Literature from the Beginning to 1800 . . .	3	3
	or		
Eng.	222 English Literature from 1800 to the Present	3	3
Eng.	253 English Grammar: Traditional and Transformational	3	3
Eng.	351 Advanced Composition	3	3

ELECTIVE:

Eng.	151 Composition and Literature	3	3
Eng.	251 Business Writing	3	3
Eng.	285 Contemporary Black American Literature 1910 – Present	3	3
Eng.	291 Short Fiction of the Twentieth Century	3	3
Eng.	312 Modern Drama	3	3
Eng.	317 Milton	3	3
Eng.	320 Prose of the American Renaissance	3	3
Eng.	321 American Prose of the Late 19th Century	3	3
Eng.	322 American Prose from 1900–1940	3	3
Eng.	323 Contemporary American Prose	3	3
Eng.	332 Nineteenth Century British Novel	3	3
Eng.	333 Twentieth Century British Novel	3	3
Eng.	353 Contemporary Poetry	3	3
Eng.	360 The Craft of Fiction	3	3
Eng.	385 American Poetry to 1900	3	3
Eng.	386 Twentieth Century American Poetry	3	3
Eng.	401 Introduction to Medieval Literature	3	3
Eng.	403 Sixteenth Century Prose and Poetry	3	3
Eng.	411 Shakespeare I (Comedies and Histories)	3	3
Eng.	416 Shakespeare II (The Tragedies)	3	3
Eng.	421 Seventeenth Century Prose and Poetry	3	3
Eng.	426 The Age of Dryden and Pope	3	3
Eng.	427 The Age of Johnson	3	3
Eng.	431 English Drama from the Beginnings to 1660	3	3
Eng.	441 English Romantic Literature (1789–1832)	3	3
Eng.	443 Nineteenth Century British Prose	3	3
Eng.	444 English Poetry 1830–1900	3	3
Eng.	453 Chaucer	3	3
Eng.	455 Criticism	3	3
Eng.	456 English Honors Seminar	3	3
Eng.	457 Introduction to Linguistics	3	3
Eng.	458 History of the English Language	3	3
Eng.	459 Old English Language and Literature	3	3

FRENCH — 30 Semester Hours, excluding French 151 and 152

REQUIRED:		c.h.	s.h.
*Fr.	251 Intermediate French I	3	3
*Fr.	252 Intermediate French II	3	3
Fr.	255 French Civilization I	3	3

Fr.	256	French Civilization II	3	3
Fr.	351	Advanced Grammar & Composition	3	3

ELECTIVE:

Fr.	260	The French Short Story	3	3
Fr.	353	The Modern French Drama	3	3
Fr.	354	The Modern French Novel	3	3
Fr.	355	French Romanticism	3	3
Fr.	356	French Poetry from Baudelaire to Surrealism	3	3
Fr.	357	The French Realistic Novel	3	3
Fr.	358	The Literature of the Age of Enlightenment	3	3
Fr.	359	The Literature of the Classical Age	3	3
Fr.	451	Supervised Readings in French Literature	3	3

Students participating in foreign study programs must complete at least six hours of French literature at Clarion State College, regardless of the number of credits earned abroad.

*May be omitted upon demonstration of proficiency at second year level.

GERMAN — 30 Semester Hours, excluding German 151 and 152

REQUIRED:			c.h.	s.h.
*Ger.	251	Intermediate German I	3	3
*Ger.	252	Intermediate German II	3	3
Ger.	255	Germanic Civilization I	3	3
Ger.	256	Germanic Civilization II	3	3
Ger.	351	Advanced Grammar & Composition	3	3

ELECTIVE:

Ger.	253	Scientific German	3	3
Ger.	350	Advanced Conversation and Interpretation	3	3
Ger.	352	Survey of German Literature through the Classical Age	3	3
Ger.	353	The Modern German Drama	3	3
Ger.	354	The Modern German Novel	3	3
Ger.	355	German Romanticism	3	3
Ger.	358	Classical German Literature: Goethe, Schiller & Lessing	3	3
Ger.	360	Contemporary German Prose	3	3
Ger.	361	German Lyric Poetry	3	3
Ger.	451	Supervised Readings in German Literature	3	3

Students participating in foreign study programs must complete at least six hours of German literature at Clarion State College, regardless of the number of credits earned abroad.

*May be omitted upon demonstration of proficiency at second year level.

MATHEMATICS – 34 Semester Hours

REQUIRED:		c.h.	s.h.
Math.	171 College Algebra and Trigonometry	4	4
Math.	172 Calculus with Analytic Geometry I	4	4
Math.	271 Calculus with Analytic Geometry II	4	4
Math.	272 Calculus with Analytic Geometry III	4	4
Math.	371 Modern Algebra I	3	3
Math.	372 Modern Algebra II	3	3

ELECTIVE:

Math.	350 Ordinary Differential Equations	3	3
Math.	352 Probability	3	3
Math.	355 History of Mathematics	3	3
Math.	357 Modern Geometry	3	3
Math.	360 Numerical Methods in Mathematics I	3	3
Math.	361 Numerical Methods in Mathematics II	3	3
Math.	370 Introduction to Linear Algebra	3	3
Math.	454 Theory of Numbers	3	3
Math.	456 Mathematical Statistics	3	3
Math.	471 Advanced Calculus I	3	3
Math.	472 Advanced Calculus II	3	3
Math.	473 Elementary Topology	3	3

A Secondary Education major electing Mathematics as a second field must complete Mathematics 171, 172, 271, 272, 371.

PHYSICS – 38 Semester Hours

REQUIRED:		c.h.	s.h.
Ph.	258 Introductory Physics Lecture I	5	4
*Ph.	268 Introductory Physics Laboratory I	3	1
Ph.	259 Introductory Physics Lecture II	5	4
*Ph.	269 Introductory Physics Laboratory II	3	1
Ph.	351 Mechanics	3	3
*Ph.	361 Mechanics Laboratory	3	1
Ph.	352 Electricity and Magnetism	3	3
*Ph.	362 Electrical Measurements Laboratory	3	1
Ph.	353 Atomic Physics	3	3
*Ph.	363 Atomic Laboratory	3	1
Ph.	354 Optics	3	3
*Ph.	364 Optical Laboratory	3	1

ELECTIVE:

Ph.	355 Nuclear Physics	6	4
Ph.	356 Heat	3	3
Ph.	357 Intro. to Theory of the Solid State	3	3
Ph.	453 Physical Measurements	5	3
Ph.	455 Electronics	5	3
Ph.	457 Demonstrations in Physics	5	3

Ph.	460 Intro. to Math. Physics	3	3
Ph.	461 Seminar	1	1

ADDITIONAL REQUIREMENTS:

Chem.	153 General Chemistry I	3	3
*Chem.	163 General Chemistry Laboratory I	3	1
Chem.	154 General Chemistry II	3	3
*Chem.	164 General Chemistry Laboratory II	3	1
Math.	171 College Algebra and Trigonometry	4	4
Math.	172 Calculus With Analytic Geometry I	4	4
Math.	271 Calculus With Analytic Geometry II	4	4
Math.	272 Calculus With Analytic Geometry III	4	4
Math.	350 Ordinary Differential Equations	3	3

Majors should not schedule Mathematics 112 or Physical Science 111 or 112 in their general education programs (see page 49). Instead, it is recommended that the Natural Sciences and Mathematics distribution be fulfilled with mathematics courses listed above.

*These laboratories must be taken concurrently with the lecture course.

SOCIAL STUDIES – 54 Semester Hours

The major distribution of 54 semester hours consists of 36 semester hours of required courses and an 18 semester hour concentration (called Departmental Emphasis) in any one of the social studies fields.

Because of the extensive course requirements for the Social Studies field, majors, in meeting the college general education requirement (see page 49), need not schedule any courses under Item IV, Social Sciences. However, they may be advised to schedule additional social science courses for Item V, Electives in General Education, an area in which the requirement is reduced from 12 to 9 semester hours for Social Studies majors.

REQUIRED:		c.h.	s.h.
Anth.	211 Anthropology	3	3
Econ.	211 Principles of Economics I	3	3
Econ.	212 Principles of Economics II	3	3
Geog.	130 Introduction to Cultural Geography	3	3
Geog.	257 Geography of U.S. and Canada	3	3
Hist.	112 Modern Civilization	3	3
Hist.	213 History of U.S. and Pennsylvania	3	3
P.S.	211 American Government	3	3
Political Science	elective.	3	3
Psych.	211 General Psychology	3	3
Psych.	355 Social Psychology	3	3
Soc.	211 Principles of Sociology	3	3

ELECTIVE: (Departmental emphasis should be chosen from the electives below.)

Anth.	213 Introduction to Bioanthropology	3	3
Anth.	214 Principles of Human Ecology	3	3
Anth.	353 Archaeology of Eastern North America	3	3
Anth.	354 Cultural History of Africa and Asia	3	3
Anth.	355 Indians of North America	3	3
Anth.	356 Field Archaeology	4	4
Anth.	357 Indians of South and Central America	3	3
Anth.	358 World Prehistory	3	3
Anth.	359 Primitive Science and Technology	3	3
Anth.	360 Introduction to Folklore	3	3
Anth.	400 Individual Research	2	2
Anth.	401 Individual Research: Archaeology	2	2
Anth.	402 Individual Research: Bioanthropology	2	2
Econ.	220 Elements of Statistics	3	3
Econ.	310 Microeconomic Theory	3	3
Econ.	311 Macroeconomic Theory	3	3
Econ.	312 Comparative Economic Systems	3	3
Econ.	340 Government Regulations	3	3
Econ.	341 Public Utilities	3	3
Econ.	351 Industrial Relations	3	3
Econ.	361 International Economic Relations	3	3
Econ.	370 Money and Banking	3	3
Econ.	371 Public Finance	3	3
Econ.	410 Managerial Economics	3	3
Econ.	453 Economics Seminar	3	3
Econ.	470 Business Cycles	3	3
Econ.	490 History of Economic Thought	3	3
Geog.	251 Economic Geography	3	3
Geog.	254 Conservation of Natural Resources	3	3
Geog.	255 Trade and Transportation	3	3
Geog.	256 Geography of Pennsylvania	3	3
Geog.	259 Map Interpretation	3	3
Geog.	352 Climatology	3	3
Geog.	354 Historical Geography of the United States	3	3
Geog.	355 Geography of the Soviet Union	3	3
Geog.	356 Geography of Europe	3	3
Geog.	357 Geography of Asia	3	3
Geog.	451 Cartography I	3	3
Geog.	452 Geography of Latin America	3	3
Geog.	453 Geography of Africa and Australia	3	3
Geog.	454 Political Geography	3	3
Geog.	455 Cartography II	3	3
Geog.	456 Aerial Photo Interpretation	3	3
Geog.	459 Field Geography	3	3
Hist.	111 History of Ancient and Medieval Civilization	3	3
Hist.	210 The Black Experience	3	3

Hist.	254	History of Latin America: Colonial Period	3	3
Hist.	255	History of Latin America: National Period	3	3
Hist.	256	History of Pennsylvania	3	3
Hist.	310	History of the Ancient Greeks	3	3
Hist.	311	History of Rome to A.D. 565	3	3
Hist.	320	Medieval History	3	3
Hist.	330	Europe During the Renaissance	3	3
Hist.	335	Europe During the Reformation	3	3
Hist.	340	History of Europe From 1660 to 1814	3	3
Hist.	345	History of Europe from 1815 to 1924	3	3
Hist.	354	Contemporary American History	3	3
Hist.	355	Economic History of the United States	3	3
Hist.	356	Contemporary European History	3	3
Hist.	357	History of England to 1689	3	3
Hist.	358	History of England since 1689	3	3
Hist.	359	History of the American Frontier	3	3
Hist.	361	History of American Science and Technology	3	3
Hist.	362	History of Afro-America	3	3
Hist.	365	Russia to the Twentieth Century	3	3
Hist.	366	Russia in the Twentieth Century	3	3
Hist.	370	History of the Near East	3	3
Hist.	375	Traditional India	3	3
Hist.	376	Modern India-Pakistan	3	3
Hist.	385	Modern Southeast Asia	3	3
Hist.	400	Contemporary Asia Since the First World War	3	3
Hist.	452	Diplomatic History of the United States	3	3
Hist.	453	Twentieth Century World History	3	3
Hist.	454	The British Empire and Commonwealth of Nations	3	3
Hist.	455	The Culture of Europe (Educational Tour)	6	6
Hist.	456	Social and Intellectual History of the United States to 1865	3	3
Hist.	457	Social and Intellectual History of the United States since 1865	3	3
Hist.	458	English Constitutional History	3	3
Hist.	461	Colonial America	3	3
Hist.	462	American Westward Expansion (1803-1950)	3	3
Hist.	463	Civil War and Reconstruction	3	3
Hist.	467	Latin America and its World Relations	3	3
P.S.	210	Introduction to Political Science	3	3
P.S.	351	State and Local Government	3	3
P.S.	352	International Relations	3	3
P.S.	353	International Organization: Theory and Practice	3	3
P.S.	354	Constitutional Law of the United States	3	3
P.S.	355	Political Parties and Elections	3	3
P.S.	365	Ancient and Medieval Political Thought	3	3
P.S.	366	Modern Political Thought	3	3
P.S.	375	Public Administration	3	3
P.S.	451	Comparative Government	3	3
P.S.	452	Government and Politics of Southeast Asia	3	3
P.S.	458	English Constitutional History	3	3

Psy.	251	Experimental Psychology	3	3
Psy.	311	Mental Hygiene	3	3
Psy.	322	Developmental Psychology	3	3
Psy.	331	Child Psychology	3	3
Psy.	332	Psychology of Exceptional Children and Youth	3	3
Psy.	333	Child Adjustment	3	3
Psy.	354	Abnormal Psychology	3	3
Psy.	356	Systematic Psychology	3	3
Psy.	451	Quantitative Methods in Psychology and Education	3	3
Psy.	452	Physiological Psychology	3	3
Psy.	453	Industrial Psychology	3	3
Psy.	454	Personality	3	3
Psy.	455	Psychology of Learning	3	3
Psy.	456	Introduction to Psychological Testing	3	3
Psy.	458	Sensation and Perception	3	3
Psy.	464	Introduction to Clinical Psychology	3	3
Psy.	465	Research Seminar	3	3
Soc.	351	Contemporary Social Problems	3	3
Soc.	352	The Family	3	3
Soc.	361	Sociology of Deviant Behavior	3	3
Soc.	362	Racial and Ethnic Minority Problems	3	3
Soc.	363	Urban Sociology	3	3
Soc.	370	Fundamentals of Population Study	3	3

SPANISH – 30 Semester Hours, excluding Spanish 151 and 152

REQUIRED:

c.h. s.h.

*Span.	251	Intermediate Spanish I	3	3
*Span.	252	Intermediate Spanish II	3	3
Span.	255	Hispanic Civilization I	3	3
Span.	256	Hispanic Civilization II	3	3
Span.	351	Advanced Grammar & Composition	3	3

ELECTIVE:

Span.	253	Commercial Spanish	2	2
Span.	350	Advanced Conversation & Composition	3	3
Span.	352	Introduction to Spanish Literature	3	3
Span.	353	The Modern Spanish Drama	3	3
Span.	354	The Modern Spanish Novel	3	3
Span.	355	The "Generation of 1898"	3	3
Span.	359	The Literature of the Golden Age	3	3
Span.	360	Survey of Spanish American Lit.	3	3
Span.	361	The History of Mexican Literature	3	3
Span.	451	Supervised Readings in Hispanic Literature	3	3

Students participating in foreign study programs must complete at least six hours of Spanish or Spanish-American literature at Clarion State College, regardless of the number of credits earned abroad.

*May be omitted upon demonstration of proficiency at second year level.

SPECIAL FIELDS AND SERVICES IN TEACHER EDUCATION

THE CURRICULUM IN LIBRARY SCIENCE

On December 3, 1937, the State Council of Education approved a curriculum for the education of school librarians at Clarion State College.

Library science courses are also offered as electives for Liberal Arts students and for elementary majors electing to take their 18-hour concentration in library science.

Besides meeting the state requirements for elementary and secondary school librarianship, the library science program at Clarion State College gives training in school library techniques and management and the use of educational media, qualifies students for service in public libraries, and offers prerequisite courses for the Master of Science degree in Library Science.

Candidates for the B.S. degree in Education who specialize in library science are required to complete 24 semester hours of library science courses. Upon receipt of the degree, the graduate is recommended for certification as a librarian in all grades of the Pennsylvania public schools.

The student specializing in library science must also complete a minimum requirement of 18 or more credits in an academic field such as communication arts (English), social studies, sciences, or mathematics. If he selects a foreign language and takes the Elementary I and II courses, he must complete 20 credits plus the methods course. The second field must be one in which he can do student teaching. At this time the following areas are not acceptable: art, music, political science, philosophy, psychology. In the senior year, he is required to do nine weeks of student teaching in this second field as well as nine weeks of practice work in a school library.

The undergraduate student may begin his library science courses in the second semester of his freshman year with the course, History of Books and Libraries. He must have a "C" average to enter the program and continue to maintain at least a "C" average in library science courses and a cumulative "C" average in all courses to graduate. He should be able to type. If he plans eventually to work for a master's degree in library science, he will need a reading knowledge of French, German, Russian, or Spanish. He may, therefore, wish to take one of these languages as an undergraduate.

THE CURRICULUM IN LIBRARY SCIENCE EDUCATION

(Sequence of courses subject to change for administrative reasons.)

3rd SEMESTER	4th SEMESTER
L.S. 257: Basic Reference 3	L.S. 256: Admin. of Sch. Libs. 3
** L.S. 255: Hist. of Bks. & Libs. 2	or L.S. 258: Sel. of Lib. Mtls. 3
L.S. 259: Art for Librarians 2-1	L.S. 432: Colloquium 0
L.S. 432: Colloquium 0	
5th SEMESTER	6th SEMESTER
* L.S. 356: Lib. Mtls. for Young People 3	** L.S. 359: Curriculum Enr. 3
L.S. 432: Colloquium 0	L.S. 357: Cat. & Class. 3
	L.S. 432: Colloquium 0
7th SEMESTER (or 8th)	8th SEMESTER (or 7th)
Ed. 422: Prof. Prac. & School Law 2	* L.S. 358: Lib. Mtls. for Child. 3
Ed. 423: Lib. Practice 15-6	L.S. 432: Colloquium 0
Ed. 424: Student Teaching . . . 15-6	

*Prerequisite: L.S. 258.

**This course is a prerequisite to student teaching.

***May be taken by second semester freshmen.

Freshmen are not admitted to library science courses, other than L.S. 255: History of Books and Libraries.

Students will find prerequisite requirements in the course descriptions. They may also inquire at the office of the Division of Library Science.

Before being assigned to student teaching, all students specializing in library science must complete L.S. 256, 257, 258, 259, 356, 357, 359 or the equivalent, along with eighteen hours in a minor field and the methods course in that field.

The student will find information on scholarship requirements for Teacher Education students on pages 32-34.

A total of 128 semester hours must be completed for the B.S. in Education.

SEQUENCE OF COURSES — ELEMENTARY SCHOOL LIBRARIANSHIP CONCENTRATION

3rd SEMESTER	4th SEMESTER
L.S. 258: Sel. of Lib. Mtls. 3	or L.S. 257: Basic Reference 3
L.S. 256: Adm. of Sch. Libs. 3	L.S. 432: Colloquium 0
L.S. 432: Colloquium 0	
5th SEMESTER	6th SEMESTER
* L.S. 358: Lib. Mtls. for Child. 3	** L.S. 359: Curriculum Enr. 3
L.S. 357: Cat. & Class. 3	L.S. 432: Colloquium 0
L.S. 432: Colloquium 0	
7th SEMESTER (or 8th)	8th SEMESTER (or 7th)
L.S. 432: Colloquium 0	El. Ed. 422: Prof. Pract. & School Law 2-2
	El. Ed. 423: Lib. Practice 15-6
	El. Ed. 424: Student Teaching . . . 15-6

*Prerequisite: L.S. 258.

**This course is a prerequisite to student teaching.

NOTE: Some students because of the nature of the new elementary program will be required to schedule L.S. 358 the 4th semester and to schedule L.S. 359 the 5th semester. Students are urged to consult the Dean of the Division of Library Science.

LIBRARY SCIENCE – 24 Semester Hours

REQUIRED:		c.h.	s.h.
L.S.	255 History of Books and Libraries	2	2
L.S.	256 Administration of School Libraries	3	3
L.S.	257 Basic Reference Sources and Services	3	3
L.S.	258 Selection of Library Materials	3	3
L.S.	259 Art for Librarians	2	1
L.S.	356 Library Materials for Young People	3	3
L.S.	357 Cataloging and Classification	3	3
L.S.	358 Library Materials for Children	3	3
L.S.	359 Curriculum Enrichment	3	3
ELECTIVE:			
L.S.	457 Independent Study Seminar	I-3	

THE DEGREE PROGRAM IN MUSIC EDUCATION

The curriculum for majors in music education at Clarion State College, leading to the degree Bachelor of Science in Music Education, combines a broad requirement in general education with advanced study in theory, history and literature of music, applied music, specialized courses in music education, and participation in musical organizations. The emphasis of the program is two-fold:

- A. The achievement of significant musical understanding and ability: *Musicianship*.
- B. The development of skills and techniques necessary for the effective communication of music understanding and ability to others: *Teaching Ability*.

The purpose of this program is to train prospective public school teachers specializing in music education, with certification in all of the following areas:

- A. Elementary music education, from kindergarten through the sixth grade, including instrumental classes.
- B. Junior high school music programs, including general music, instrumental and vocal classes.
- C. Secondary school music programs, including all vocal and instrumental activities, general music, and elective academic courses in theory, music history, etc.

GENERAL EDUCATION

The general education distribution for all students in the college is presented on page 49. Students in the Degree Program in Music Education should include the specific courses shown below in partial fulfillment of requirements.

I	SKILLS	13 credits
Eng. 111:	Composition I	3 s.h.
Sp. 113:	Fundamentals of Speech	3 s.h.
II	HUMANITIES	12 credits
Mus. 151:	Hist. & Lit. of Music I	3 s.h.
Mus. 152:	Hist. & Lit. of Music II	3 s.h.
III	NATURAL SCIENCES & MATHEMATICS	12 credits
IV	SOCIAL SCIENCES	12 credits
Psy. 211:	General Psychology	3 s.h.
Psy. 321 or 331:	Adolescent or Child Psychology	2-3 s.h.
V	ELECTIVES IN GENERAL EDUCATION	12 credits
Mus. 135:	Theory of Music I	4 s.h.
Mus. 136:	Theory of Music II	4 s.h.

PROFESSIONAL EDUCATION

		Sem. Hrs.
Ed.	223 Social Foundations of Education	3
Psy.	222 Educational Psychology	3
Mus.	333 Elementary Music Methods	3
Mus.	334 Junior High & Secondary Music Methods	3
Mus.	362 Instrumental Methods	2
Mus.	363 Vocal Methods	2
Ed.	422 Professional Practicum	2
Ed.	432 Student Teaching	<u>10</u>
Total	28

AREA OF SPECIALIZATION

Mus.	235 Theory of Music III	4
Mus.	236 Theory of Music IV	4
Mus.	251 History & Literature of Music III	3
Mus.	252 History & Literature of Music IV	3
Mus.	365 Conducting I	2
Mus.	366 Conducting II	2
Mus.	367 Orchestration	2

KEYBOARD AND VOICE PROFICIENCY

*Mus.	160 Piano Class	1
Mus.	161 Piano (3 semesters)	3
*Mus.	162 Voice Class	1

Mus.	163	Voice (2 semesters)	2
*Elective			(3)

INSTRUMENTAL TECHNIQUES 7

Mus.	261	I: Violin, Viola
Mus.	262	II: Cello, String Bass
Mus.	263	III: Flute, Oboe, Saxophone
Mus.	264	IV: Clarinet, Bassoon
Mus.	265	V: Trumpet, French Horn
Mus.	266	VI: Trombone, Tuba
Mus.	267	VII: Percussion

APPLIED FIELD OF PERFORMANCE 7

Voice, Piano, Instrument – (Mus. 161, 163, 164, 165, 166, 167, 168, 169 or 170)

PERFORMING ORGANIZATION

(No credit – six semesters of participation required)

Total 41

*Students whose applied field of performance is Voice or Piano will substitute an approved music elective, as appropriate: Music 351 - 358, incl.; Music 361, 364, or 368.

DEGREE PROGRAM IN MUSIC EDUCATION

Sample four-year curriculum for students whose field of performance is instrumental. The curriculum for students whose field of performance is piano or voice is similar.

1st SEMESTER: 16 s.h.

		s.h.			s.h.		
Eng.	111:	Composition I	3	Mus.	135:	Theory of Music I	4
		Gen. Ed. requirements				Applied Music	1
		or Electives	6	Mus.	160:	Piano Class	1
			<u>9</u>	Mus.	261:	Inst. Tech. I	1
						Performing Org.	0
							<u>7</u>

2nd SEMESTER: 17 s.h.

		Gen. Ed. requirements		Mus.	136:	Theory of Music II	4
		or Electives	9			Applied Music	1
HPE		Physical Education	1	Mus.	161:	Piano	1
			<u>10</u>	Mus.	262:	Inst. Tech. I	1
						Performing Org.	0
							<u>7</u>

3rd SEMESTER: 17 s.h.

		Gen. Ed. requirements		Mus.	235:	Theory of Music III	4
		or Electives	6	Mus.	151:	His. & Lit. of Mus. I	1
HPE		Physical Education	1			Applied Music	1
			<u>7</u>	Mus.	161:	Piano	1
				Mus.	263:	Inst. Tech. III	1
						Performing Org.	0
							<u>10</u>

4th SEMESTER: 18 s.h.

Psy.	211:	General Psychology	3	Mus.	236:	Theory of Music IV	4
Ed.	223:	Soc. Found. of Ed.	3	Mus.	152:	His. & Lit. of Mus. II	3
HPE	111:	Health Education	2			Applied Music	1
			<u>8</u>	Mus.	161:	Piano	1
				Mus.	264:	Inst. Tech. IV	1
						Performing Org.	0
							<u>10</u>

5th SEMESTER: 17 s.h.

	Gen. Ed. requirements	Mus. 251:	His. & Lit. of Mus. III . . .	3
	or Electives	Mus. 365:	Conducting I	2
Psy. 222:	Educational Psychology . . .		Applied Music	1
Mus. 333:	Elem. Music Methods . . .	Mus. 162:	Voice Class	1
	<u>9</u>	Mus. 265:	Inst. Tech. V	1
			Performing Org.	<u>0</u>
				8

6th SEMESTER: 15-16 s.h.

Psy. 321 or 331:	Adol. or Child	Mus. 252:	His. & Lit. of Mus. IV . . .	3
Mus. 334:	Jr. High & Sec.	Mus. 366:	Conducting II	2
	Music Methods		Applied Music	1
Mus. 363:	Vocal Methods	Mus. 163:	Voice	1
	<u>2</u>	Mus. 266:	Inst. Tech. VI	1
	7-8		Performing Org.	<u>0</u>
				8

7th SEMESTER (or 8th): 16 s.h.

	Gen. Ed. requirements	Mus. 367:	Orchestration	2
	or Electives		Applied Music	1
Mus. 362:	Instrumental Methods . . .	Mus. 267:	Inst. Tech. VII	1
	<u>2</u>	Mus. 163:	Voice	1
	11		(Performing Org.-optional)	0
				5

8th SEMESTER (or 7th): 12 s.h.

Ed. 422:	Professional Practicum . . .	2
Ed. 432:	Student Teaching	<u>10</u>
		12

Total Credits required for Graduation: 128-130.

THE CURRICULUM IN PUBLIC SCHOOL NURSING

60 Semester Hours

The curriculum in public school nursing, open only to persons who are Registered Nurses, leads to the degree of Bachelor of Science in Public School Nursing.

GENERAL EDUCATION

		c.h.	s.h.
Eng.	111 Freshman Composition 1	3	3
Eng.	211 or 212 European Backgrounds and Traditions	3	3
SCT.	113 Fundamentals of Speech	3	3
Hist.	112 History of Modern Civilization	3	3
Hist.	213 History of U.S. and Pa.	3	3
P.S.	211 American Government	3	3
Soc.	211 Principles of Sociology	3	3
	Electives		<u>10</u>
Total		31

PROFESSIONAL EDUCATION

Ed.	223 Social Foundations of Education	3	3
Psy.	211 General Psychology	3	3
Psy.	222 Educational Psychology	3	3

Psy.	321	Psychology of Adolescence	3	3
Ed.	329	Audio-Visual Communication	3	2
Total				14

SPECIALIZED EDUCATION

N.	351	Public School Nursing	3	3
N.	352	Specialized Health Problems of School Aged Children	3	3
N.	353	Family Case Work	3	3
N.	354	Public Health Nursing	3	3
S.E.	211	General Safety Education	3	3
Total				15

SAFETY EDUCATION PROGRAM – 12 Semester Hours

REQUIRED:			c.h.	s.h.
S.E.	351	Driver Education and Traffic Safety	3	3
S.E.	211	General Safety Education	3	3
ELECTIVE:				
S.E.	212	Organization and Administration of Safety Education	3	3
S.E.	213	Materials and Methods of Teaching Safety in the Secondary Schools	3	3
S.E.	214	The Psychology of Accident Prevention	3	3
S.E.	215	Visual and Other Aids in Safety Education	3	3

Any college certificate may be extended to include Driver Education and General Safety Education by completion of 12 semester hours of above courses. However, such course work will not fulfill second field requirements for secondary majors or concentration requirements for elementary majors.

DEGREE PROGRAM IN SPECIAL EDUCATION

TEACHING THE MENTALLY RETARDED

Professional Education and Area of Specialization

Mental Retardation

REQUIRED OF ALL MENTAL RETARDATION MAJORS

Ed.	223	Social Foundations of Education	3	3
Ed.	329	Audio-Visual Communication	2	2
Psy.	222	Educational Psychology	3	3
Psy.	322	Developmental Psychology	3	3

El. Ed.	323	Teaching of Reading	3
El. Ed.	324	Teaching of Elementary School Mathematics	3
SPA	457	Developmental Sequence of Language and Speech	3
Sp.Ed.	210	Exceptional Children	3
Sp.Ed.	215	Observation and Participation	3
Sp.Ed.	220	Nature of Mental Retardation	3
Sp.Ed.	405	Learning and Behavioral Disorders	3
Sp.Ed.	410	Educational Appraisal and Prescription I	3
Sp.Ed.	415	Instructional Development and Strategies I	6
Sp.Ed.	430	Teaching/Learning Strategies	1
Sp.Ed.	450	Student Teaching	12
Ed.	422	Professional Practicum	2

RECOMMENDED ELECTIVES 15 sem. hrs.

NOTE: For General Education requirements in Special Education see page 49.

Total 32

REQUIRED OF ALL SPECIAL EDUCATION MAJORS

1st SEMESTER: 17 s.h.

		s.h.			s.h.	
Eng.	111:	Composition I	3	HPE	111: Health Education	2
Math.	111:	Basic Math	3		General Education	
Sp.	113:	Fundamentals of			Requirements or	
		Speech	<u>3</u>		Electives:	<u>6</u>
			9			8

2nd SEMESTER: 16 s.h.

HPE		Physical Activity	1
		General Education	
		Requirements or	
		Electives	<u>15</u>
			16

3rd SEMESTER: 16 s.h.

Psy.	211:	General Psychology	3	Sp.Ed.	210:	Exceptional Children	3
Ed.	223:	Social Foundations	3	Sp.Ed.	215:	Observation and	
		General Education				Participation	3
		Requirements or				(May be taken 3rd	
		Electives	3-6			or 4th Semester)	<u>3-6</u>
HPE		Physical Activity	1				
			10-13				

4th SEMESTER: 18 s.h.

SPA	457:	Developmental		Sp.Ed.	215:	Observation and	
		Sequence of Lan-				Participation	3
		guage and Speech	3			(May be taken 3rd	
Psy.	322:	Developmental				or 4th Semester)	
		Psychology	3	Sp.Ed.	220:	Nature of Mental	
Psy.	222:	Educational				Retardation	3
		Psychology	3				<u>3-6</u>
		General Education					
		Requirements or					
		Electives	<u>3-6</u>				
			12-15				

5th SEMESTER: 17 s.h.

El.Ed. 323:	Teaching of Reading	3	Sp.Ed. 405:	Learning and Behavioral Disorders . .	3
El.Ed. 324:	Teaching of Elementary School Mathematics	3	Sp.Ed. 415:	Instructional Development and Strategies	6
Ed. 329:	Audio-Visual Communication	2			9
		<u>8</u>			

6th SEMESTER: 18 s.h.

General Education Requirements	Electives	15	Sp.Ed. 410:	Educational Appraisal and Prescription I	3
		<u>15</u>			3

7th SEMESTER (or 8th): 14 s.h.

Ed. 422:	Professional Practicum	2	Sp.Ed. 450:	Student Teaching	12
		<u>2</u>			12

8th SEMESTER (or 7th): 15 s.h.

General Education Requirements and Electives	14	Sp.Ed. 430:	Teaching/Learning Strategies	1
	<u>14</u>			1

DEGREE PROGRAM IN SPEECH PATHOLOGY AND AUDIOLOGY

This program provides the academic background necessary for graduate study in Speech Pathology and Audiology and leads to the degree Bachelor of Science in Speech Pathology and Audiology.

REQUIRED COURSES:

			c.h.	s.h.
Sp.Ed.	111	Exceptional Children	3	3
SPA	450	Phonetics	3	3
SPA	451	Anatomy of Speech and Hearing Mechanisms	3	3
SPA	452	Speech Problems	3	3
SPA	453	Speech Pathology	3	3
SPA	456	Introduction to Speech Science	3	3
SPA	457	Developmental Sequences in Language	3	3
SPA	460	Hearing Problems	3	3
SPA	463	Speech Reading and Auditory Training	3	3
SPA	468	Speech and Hearing Clinic I: Practicum	7½	3
Ed.	223	Social Foundations of Education	3	3
El.Ed.	323	Teaching of Reading	3	3
Psy.	311	Psychology of Adjustment	3	3
Psy.	322	Developmental Psychology	3	3
Psy.	455	Psychology of Learning	3	3
Ed.	422	Professional Practicum Including School Law	2	2
SPA	422	Student Teaching with Speech and Hearing Handicapped	30	12

NOTE: For General Education requirements in Speech Pathol-

ogy and Audiology see page 49.

SPEECH PATHOLOGY AND AUDIOLOGY – SEQUENCE OF COURSES

			c.h.	s.h.
1st or 2nd SEMESTER				
Sp.Ed.	111	Exceptional Children	3	3
3rd SEMESTER				
SPA	452	Speech Problems	3	3
SPA	450	Phonetics	3	3
4th SEMESTER				
SPA	457	Developmental Sequences in Language and Speech	3	3
SPA	451	Anatomy of Speech and Hearing Mechanisms	3	3
5th SEMESTER				
SPA	460	Hearing Problems	3	3
6th SEMESTER				
SPA	463	Speech Reading and Auditory Training	3	3
SPA	453	Speech Pathology	3	3
5th or 6th SEMESTER				
SPA	468	Speech and Hearing Clinic I: Practicum	7½	3
SPA	456	Introduction to Speech Science	4	3
7th or 8th SEMESTER				
Ed.	422	Professional Practicum including School Law	2	2
SPA	422	Student Teaching with Speech and Hearing Handicapped	30	12

ASSOCIATE DEGREE NURSING PROGRAM

Clarion State College offers the degree of Associate in Science as a two year professional nursing program at the Venango Campus of the College, Oil City, Pennsylvania.

The Associate in Science-Nursing Program is designed to prepare technically competent nurses able to give patient-centered care in first-level positions in hospitals or other health agencies, and to work effectively with other members of the health team. Upon completion of the program, the graduate will be eligible to take the state licensure examination.

OBJECTIVES

The curriculum in the Associate Degree Nursing Program seeks to provide an educational environment which will enable the student to:

1. Understand the behavior of the individual in relation to his physical, biological, and social environment.

2. Understand and apply basic scientific principles in planning and implementing patient-centered care.
3. Utilize critical thinking and judgment in planning, implementing, and evaluating nursing care for the individual and/or groups of patients.
4. Recognize the basic needs of the individual and, upon analysis of the nursing situation, use problem solving procedures in planning nursing care based on these needs.
5. Perform basic nursing techniques in caring for patients and function as an effective member of the health team.
6. Establish and maintain effective interpersonal relations with patients, their families, and other members of the health team.
7. Recognize his own capabilities and limitations in personal growth.
8. Understand his professional role as a nurse, a person, and a citizen of the community.

REQUIREMENTS FOR THE FIELD OF NURSING

The requirements for the field of nursing include courses in general education and the specialization as follows:

a.	English Composition	6 credits
b.	Humanities	6 credits
	(1) Literature	3 credits
	(2) Speech	3 credits
c.	Natural Sciences	7 credits
	(1) Biological Sciences	
	(a) Anatomy and Physiology	4 credits
	(b) Microbiology	3 credits
d.	Social Sciences	12 credits
	(1) Psychology	
	(a) General Psychology	3 credits
	(b) Developmental Psychology	3 credits
	(c) Psychology of Adjustment	3 credits
	(2) Sociology	
	(a) Principles of Sociology	3 credits
e.	Nursing	31 credits
	(1) Fundamentals of Nursing	4 credits
	(2) Parental and Child Health Nursing	8 credits
	(3) Nursing in Health and Disease I	8 credits
	(4) Nursing in Health and Disease II	8 credits
	(5) Nursing Seminar	3 credits
f.	Electives	6 credits
	(1) Arts Elective	3 credits
	(2) Free Elective	3 credits
	TOTAL	68 credits

THE CURRICULUM IN THE FIELD OF NURSING

The associate degree nursing program is expected to be completed in two academic years. The curriculum outline for the nursing program is as follows:

FIRST SEMESTER			Clock Lec.	Hours Lab.	Cr.
Eng.	111	Comp. I	3	0	3
Biol.	259	Anatomy and Physiology	2	4-6	4
Psy.	211	General Psychology	3	0	3
Sp.	113	Fundamentals of Speech	3	0	3
Nurs.	101	Fundamentals of Nursing	2	6	4
			13	10-12	17
SECOND SEMESTER			Clock Lec.	Hours Lab.	Cr.
Eng.	112	Comp. II	3	0	3
Biol.	260	Microbiology	2	3	3
Psy.	322	Developmental Psychology . . .	3	0	3
Nurs.	102	Parental and Child Health Nursing	4	12	8
			12	15	17
THIRD SEMESTER			Clock Lec.	Hours Lab.	Cr.
Eng.	213	Introduction to Literature	3	0	3
		Arts Elective	3	0	3
Psy.	311	Psychology of Adjustment . . .	3	0	3
Nurs.	201	Nursing in Health and Disease I	4	12	8
			13	12	17
FOURTH SEMESTER			Clock Lec.	Hours Lab.	Cr.
Soc.	211	Principles of Sociology	3	0	3
		Free Elective	3	0	3
Nurs.	202	Nursing in Health and Disease II	4	12	8
Nurs.	203	Nursing Seminar	3	0	3
			13	12	17
TOTAL CREDITS 68					

VENANGO CAMPUS

GENERAL EDUCATION COURSE OFFERINGS

NOTE: Certain courses listed under general education below

are also applicable to major fields. Students should consult the college catalog and their advisers to determine which courses should be taken for specific majors. For college requirements in general education see page 49.

		Credits
I. SKILLS		13
Eng. 111	Composition I	3
Math. 111	Basic Elementary Math (or)	3
Math. 112	Basic Secondary Math (or)	(3)
Math. 171	College Algebra and Trigonometry	(4)
Sp. 113	Fundamentals of Speech	3
HPE 111	Health	2

NOTE: Additional 2 credit requirement in physical education offered at Venango Campus only during the summer sessions.

II. HUMANITIES		12
Art 111	Visual Arts	3
Eng. 211	European Backgrounds I	3
Eng. 221	Eng. Lit. to 1800	3
Eng. 320	Prose of the Am. Ren.	3
Fr. 151	Elem. French I	4
Fr. 251	Interm. French I	3
Span. 151	Elem. Spanish I	4
Span. 251	Interm. Spanish I	3
Sp. 251	Voice & Diction	3
Art 231	Studio Res. in Art Med	3
Eng. 212	European Backgrounds II	3
Eng. 222	Eng. Lit. since 1800	3
Mus. 111	Intro. to Music	3
Fr. 152	Elem. French II	4
Fr. 252	Interm. French II	3
Span. 152	Elem. Spanish II	4
Span. 252	Interm. Spanish II	3
Sp. 253	Intro. to Theatre	3

III. SOCIAL SCIENCES		12
Econ. 211	Prin. of Economics	3
Hist. 111	Anc. & Med. Civil.	3
Hist. 213	History of U.S.	3
Psy. 211	General Psychology	3
Psy. 322	Developmental Psychology	3
Geog. 254	Consv. Nat. Resources	3
Soc. 211	Prin. of Sociology	3
Hist. 112	Modern Civilization	3
P.S. 211	American Government	3
Psy. 311	Psych. of Adjustment	3
Psy. 331	Child Psychology	3
Geog. 257	Geog. of U.S. & Canada	3

IV. NATURAL SCIENCES/MATHEMATICS		12
Biol. 111	Basic Biology	4
Biol. 153	General Biology I	4
Biol. 259	Anatomy & Phys	4
Chem. 115	Inorganic Chem. I	5
Chem. 161	Inorganic Chem. Lab. I	1
Math. 131	Math. for Bus. & Econ. I	3
Math. 211	Mod. Concepts of Math	3
Math. 271	Calc. w/Anal. Geom. II	4
E.S. 111	Basic Earth Science	3
Ph.Sci.111	Phy. Science I (Chem.)	3
Biol. 202	Environmental Biology	3
Biol. 154	General Biology II	4
Biol. 260	Microbiology	3
Chem. 152	Inorganic Chem. II	5
Chem. 162	Inorganic Chem. Lab. II	1
Math. 132	Math. for Bus. & Econ. II	3
Math. 172	Calc. w/Anal. Geom. I	4
Math. 272	Calc. w/Anal. Geom. III	4
E.S. 252	Physical Geology	3
Ph.Sci.112	Phy. Sci. II (Phys.)	3

V. ELECTIVES FOR GENERAL EDUCATION 12

To be chosen from fields listed in Items I, II, III, or IV above, except the initial course in English Composition and physical education activities courses; or from the following:

Eng. 112	Composition II	3
Eng. 113	Composition III	3
Eng. 115	Business Writing	3

PROFESSIONAL EDUCATION COURSES:

Art 222	Tch. Art in Elem. Grades	3
Psy. 222	Educational Psychology	3
Ed. 329	Audio-Visual Education	2

GRADUATE STUDY

OBJECTIVES

The programs of graduate study at Clarion State College have been designed to meet the two basic needs of graduate students at the level of the Master's degree. One of these needs is experienced by the professional educator who may desire to pursue graduate study as a means of improving his individual capabilities in the classroom in order to meet changing certification requirements, or as a measure of professional advancement and as a basis for continuing advanced study. This purpose is best served by a professionally oriented degree. The second of these two basic needs is that of the student in an academic discipline who wishes to advance his knowledge and skill in that discipline for personal and professional reasons or as the basis for pursuit of an advanced degree.

In order to meet the professional needs of the teacher-educator, Clarion State College offers the degrees of Master of Education (with major area fields in biology, elementary education, science education, mathematics, reading, and in speech pathology) and Master of Science in Library Science. For individuals in those disciplines, Clarion State College has programs leading to the Master of Arts degree with major area fields in English, history, and mathematics and the Master of Science degree in biology, communication, mathematics, and special education.

The minimum program for the master's degree is thirty (30) semester hours. This requirement may vary depending on preliminary academic training and professional experience of the individual applicant.

ADMISSIONS

To qualify for regular admissions to graduate study the applicant must fulfill the following requirements:

- a. An applicant must have a baccalaureate degree from a currently accredited institution. Those graduated from a non-accredited institution must make a satisfactory score on the Aptitude Section of the Graduate Record Examination.
- b. An applicant must have achieved a 2.5 quality point average (on a four-point scale) for the baccalaureate degree. An applicant with less than a 2.5 quality point average for the baccalaureate degree may be admitted to a provisional status pending satisfactory completion of six semester hours of graduate study.

c. Applicants must meet undergraduate requirements established by their major departments.

A maximum of nine semester hours credit of acceptable graduate study completed at other accredited institutions may be transferred and applied toward the minimum residence requirement for the master's degree.

Application forms and additional information concerning admission procedures may be obtained by writing to:

Dean of Graduate Studies
Clarion State College
Clarion, Pennsylvania 16214

FEES FOR GRADUATE STUDY (Subject to Change Without Notice)

Application fee (non-refundable)	\$ 10.00
Basic fee per semester hour of credit for Pennsylvania residents	36.00
Basic fee per semester hour of credit for out-of-state students	46.00
Minimum basic fee for Pennsylvania residents	108.00
Minimum basic fee for out-of-state students	138.00
Thesis binding fee (minimum)	15.00
Diploma fee	5.00
For Activity Fee see page 37.	

PROGRAMS

MASTER OF ARTS

ENGLISH

Selected courses in English 12 credits
Thesis

Six (6) hours of seminar credits and the presentation of two (2) major papers or essays may be substituted for the thesis.

Electives in English 12 credits

HISTORY

Required Courses 6 - 12 credits
History 501: Bibliography and Research Methods is required of all candidates.

Each candidate must enroll for a minimum of three (3)

semester hours credit in History 600: Research Seminar.

Electives other than History 0-6 credits

Elective courses outside the area of history may be taken with the advisor's approval.

Electives in History 12-24 credits

MATHEMATICS

Required Courses 18 credits

Math. 553, 554: Functions of a Real Variable I, II

Math. 555: Topology I

Math 559: Complex Variables I

Math. 561, 562: Abstract Algebra I, II

Electives 12 credits

MASTER OF EDUCATION

BIOLOGY

General Education 0-6 credits

Graduate courses from related areas such as chemistry or mathematics may be selected under advisement.

Professional Education 3-6 credits

Education 520: Introduction to research is required of all candidates. In addition, one of the following courses may be included in the program.

Education 525: Psychology of Education

Education 526: Sociology of Education

Education 527: Statistics in Education

Education 528: Philosophy of Education

Major Field of Specialization 18-27 credits

A student may concentrate in one of four areas of biological emphasis: Physiological Biology, Structural and Developmental Biology, Environmental Biology, or Genetics and Microbiology.

ELEMENTARY EDUCATION

Required Professional Education 6 credits

Education 520: Introduction to Research is required of all candidates. In addition, at least one of the following courses must be included in the program:

Education 525: Psychology of Education

Education 526: Sociology of Education	
Education 527: Statistics in Education	
Education 528: Philosophy of Education	
Specialized Professional Education	12 credits
Related Subject Matter	9 credits
Elective	3 credits

SCIENCE EDUCATION

Professional Education	3-6 credits
Required: Educ. 520: Introduction to Research	
Electives: Educ. 525: Psychology of Education	
Educ. 526: Sociology of Education	
Educ. 527: Statistics in Education	
Educ. 528: Philosophy of Education	
Major Field of Specialization	18-27 credits
Related Fields	0-6 credits
Courses from related subject areas such as mathematics, biological science, or physical science carrying graduate credit may be selected under advisement.	

MATHEMATICS

General Education	0-3 credits
Courses from related subject areas which carry graduate credit may be selected under advisement.	

Professional Education

One of the following courses must be included in the candidate's program. An additional course may be elected with departmental approval.

- Education 520: Introduction to Research
- Education 525: Psychology of Education
- Education 526: Sociology of Education
- Education 527: Statistics of Education
- Education 528: Philosophy of Education

Required Courses in Mathematics	9 credits
Mathematics 533: Functions of a Real Variable I	
Mathematics 561: Abstract Algebra I	
Mathematics 590: Introduction to Research in Mathematics and Mathematics Education	

READING EDUCATION

Required Courses 18 credits

- Ed. 520: Introduction to Research
- Ed. 543: Developmental Reading (K-12)
- Ed. 545: Foundations of Reading
- Ed. 547: Reading Evaluations
- Ed. 550: Practicum I: Analysis
- Ed. 551: Practicum II: Correction

Electives in Reading Education 9 credits

- Eng. 457: Introduction to Linguistics
- Psy. 557: Psychometrics
- Ed. 541: Recent Trends in the Communicative Arts
- Ed. 542: Seminar in Children's Literature
- Ed. 548: Seminar in Modern Trends in the Teaching of Reading

Electives 6 credits

Reading Specialist Certification:

A student will be approved for Reading Specialist Certification after demonstrating academic and personal competencies necessary of a Reading Specialist by receiving the endorsement of two staff members in the field of reading.

Reading Supervisor Certification:

A student will be approved for Reading Supervisor Certification when he has completed the Master Degree in Reading, has the endorsement of two staff members in the field of reading, and has demonstrated the competencies taught in the following courses:

- Ed. 527: Statistics in Education
- Ed. 536: Improving Instruction Through Supervision
- Ed. 549: Organization and Administration of the Reading Program
- Ed. 610: Internship in Reading

SPEECH PATHOLOGY

Required Course 3 credits

- Education 520: Introduction to Research is required of all students.

Electives in Speech Pathology	24 credits
SPA 500: Aphasia	
SPA 505: Articulation	
SPA 510: Cerebral Palsy	
SPA 515: Cleft Palate	
SPA 520: Language Disorders	
SPA 525: Stuttering	
SPA 530: Voice	
SPA 535: Audiology	
SPA 540: Clinical Practice	
SPA 590: Research	
or approved 400 level courses in SPA.	
Elective in Related Areas	3 credits

MASTER OF SCIENCE

BIOLOGY

Major Field of Specialization	24-30 credits
A student may concentrate in one of four areas of biological emphasis: Physiological Biology, Environmental Biology, or Genetics and Microbiology.	
Thesis	6 credits

COMMUNICATION

Required Courses	16 credits
The following courses are required of all candidates:	
Educ. 520:	Introduction to Research
Comm. 550:	Communication Theory
Comm. 555:	Programmed Instruction
Comm. 560:	Audio Production
Comm. 565:	Basic Production
Electives in Communication	20 credits
Courses in communication selected under advisement.	

MATHEMATICS*

Required Courses in Mathematics 24 credits

The following courses are required of all candidates:

Axiomatic Mathematics for Elementary Teachers I, II,
III, IV

Elementary Analysis I, II

Introduction to Modern Algebra I, II

Electives 6 credits

*Certification as an elementary teacher is required for admission to this program.

SPECIAL EDUCATION (MENTAL RETARDATION)*

Research 3 credits

Education 520: Introduction to Research is required
of all candidates.

Required Courses 15 credits

Spec. Ed. 505: Concepts of Intelligence

Spec. Ed. 510: Ecology of the Classroom

Spec. Ed. 515: Curriculum Development and
Construction

Spec. Ed. 525: Educational Appraisal & Prescription II

Spec. Ed. 590: Special Projects

Electives in Special Education 12 credits

Spec. Ed. 500: Contemporary Issues in Special
Education

Spec. Ed. 520: Education Appraisal & Prescription I

Spec. Ed. 530: Learning Disabilities

Spec. Ed. 535: Training the Severely Retarded Person

Spec. Ed. 540: Psychopathology in Childhood

Spec. Ed. 545: School/Community Habilitation of
Mentally Retarded Persons

Spec. Ed. 550: Organization & Administration of
Special Education Programs

*Applicants must meet the following two additional requirements for admission to graduate study in Special Education – MR:

A. Must hold certification in teaching the mentally retarded, or the equivalent as determined by the graduate faculty in Special Education.

B. Must complete the Educational Diagnostic Examination which serves as a basis for advisement.

MASTER OF SCIENCE IN LIBRARY SCIENCE

All candidates must meet the following prerequisite requirements or their equivalents:

- L.S. 257: Basic Reference Sources and Services
- L.S. 258: Selection of Library Materials
- L.S. 357: Cataloging and Classification
- Proficiency in a modern foreign language

Required Courses 6 credits

- L.S. 550: Introduction to Research in Library Science
- L.S. 553: Management of Libraries

Two of the following courses 6 credits

- L.S. 556: Bibliography of the Sciences
- L.S. 557: Bibliography of the Social Sciences
- L.S. 558: Bibliography of the Humanities

OR

- L.S. 559: Advanced Reference and Reader's
Advisory Service

One course elected from

- L.S. 556, L.S. 557, or L.S. 558

Electives in an Area of Specialization 18 credits

COURSE DESCRIPTIONS

ANTHROPOLOGY

ANTH. 211: ANTHROPOLOGY 3 s.h.

This course deals with the origin, diversification, and evolution of man's way of life (cultures) from extinct primitive systems to modern industrial civilizations. This course is an introduction to anthropology (the study of man) with emphasis on the nature and concept of culture. Some work is done in physical anthropology. Emphasis is placed on the simple and complex cultures of the world with specific readings in each category.

ANTH. 213: INTRODUCTION TO BIOANTHROPOLOGY 3 s.h.

A survey study of the human species in time, place, and culture and the investigation of the factors underlying human variation.

ANTH. 214: PRINCIPLES OF HUMAN ECOLOGY 3 s.h.

A study of the functional inter-relationships of man and his biophysical environment.

ANTH. 353: ARCHAEOLOGY OF EASTERN NORTH AMERICA 3 s.h.

The course provides a detailed survey of prehistoric developments in North America east of the Mississippi from Late Pleistocene to the Colonial Period. The principal aim is to familiarize students with the prehistory of the Amerind populations in the area, including the gradual emergence of the Woodland pattern.

ANTH. 354: CULTURAL HISTORY OF AFRICA AND ASIA 3 s.h.

A survey of major cultural developments of Old World cultures exclusive of Europe. The emphasis will be on tribal cultures and civilizations prior to the diffusion of Western technology. No prerequisite.

ANTH. 355: INDIANS OF NORTH AMERICA 3 s.h.

This course begins with the study of the earliest archaeological evidence for the presence of Homo Sapiens in the New World, the gradual development of Native Amerind cultures during the Palaeo-Amerind period, and the subsequent Archaic level as it shows the native population in balance with the environmental resources. While the initial emphasis will be upon the rise and development of indigenous cultural patterns, considerable time will be devoted to a close scrutiny of man's utilization of his environment.

ANTH. 356: FIELD ARCHAEOLOGY 4 s.h.

This course will give undergraduate students an opportunity to participate actively in all phases of archaeology field investigation of a limited section of the Allegheny river drainage in order to determine cultural sequence, settlement patterns, population density, economy, cultural influences, technologies, and human ecology. Procedures will

include reconnaissance, testing of suspected sites, site survey, controlled excavation, site mapping, interpretation and recovery of specimens, and a final site report.

ANTH. 357: INDIANS OF SOUTH AND CENTRAL AMERICA 3 s.h.

A survey of Indian cultures from the beginnings in the Late Pleistocene to the coming of the Conquistadores; special emphasis is placed upon culture developments, the rise of states, native agriculture, and the development of arts and crafts, including architecture and ceremonial art. Prerequisite: An introductory course in either anthropology or sociology.

ANTH. 358: WORLD PREHISTORY 3 s.h.

This course covers the cultural development of Man from the Lower Paleolithic to the beginnings of urbanism in the Bronze and Iron Age. The course examines man's development in Europe, Africa, Asia, and the New World; draws comparisons between cultures; studies the diffusion of cultural traits; and summarizes recent developments in research. No prerequisite.

ANTH. 359: PRIMITIVE SCIENCE AND TECHNOLOGY 3 s.h.

This course is designed to provide a better understanding of Man's relationship with and utilization of environment. It traces the development which ultimately leads to the rise of technological societies. In investigating Man's attempts to come to an understanding of the forces around him, the course provides a survey of the history of scientific thought.

ANTH. 360: INTRODUCTION TO FOLKLORE 3 s.h.

The course covers the main aspects of oral traditions such as folktale, legend, myth, riddle, folksong, etc., and analyzes the relationship of oral traditions to literature. The systematic study of folklore, its methods, research approaches, and related subjects are investigated. No prerequisite.

ANTH. 400: INDIVIDUAL RESEARCH 2 s.h.

Individual research, designed as an advanced course in anthropology, provides for the student's individual approach to a specific problem, defined in conference with the instructor. Regular sessions with the faculty member in charge evaluate the progress of the work and chart its direction. Students are expected to acquire research techniques in dealing with their topics. All branches of anthropology may be used to select a topic. Credit and grades will be given only if the project (term paper, survey, investigation, etc.) has been completed to the satisfaction of the project adviser and the departmental chairman. Prerequisite: Anth. 211.

ANTH. 401: INDIVIDUAL RESEARCH: ARCHAEOLOGY 2 s.h.

Individual research, designed as an advanced course in archaeology, provides for the student's individual approach to a specific problem, defined in conference with the instructor. Regular sessions with the faculty member in charge evaluate the progress of the work and chart its direction. Students are expected to acquire research techniques in dealing with their topics. All branches of archaeology may be used to select a topic. Credit and grades will be given only if the project (term paper,

survey, investigation, etc.) has been completed to the satisfaction of the project adviser and the departmental chairman. Prerequisite: Anth. 211, 356.

ANTH. 402: INDIVIDUAL RESEARCH: BIOANTHROPOLOGY 2 s.h.

Individual research, designed as an advanced course in bioanthropology, provides for the student's individual approach to a specific problem, defined in conference with the instructor. Regular sessions with the faculty member in charge evaluate the progress of the work and chart its direction. Students are expected to acquire research techniques in dealing with their topics. All branches of bioanthropology may be used to select a topic. Credit and grades will be given only if the project (term paper, survey, investigation, etc.) has been completed to the satisfaction of the project adviser and the departmental chairman. Prerequisite: Anth. 211, 213 or the consent of instructor.

SUMMER ARCHAEOLOGICAL FIELD SCHOOL 9 s.h.

An integrated program especially designed to provide undergraduates with a practical and theoretical background in modern archaeological research. The program combines three weeks of classroom and laboratory work with five weeks of field research, including excavations. All participants must register for Anth. 353 (Archaeology of Eastern North America), Anth. 356 (Field Archaeology), and Anth. 401 (Individual Research: Archaeology). Students with previous formal field training may register for Anth. 401 only.

ART

ART 111: THE VISUAL ARTS 3 s.h.

This is an introductory art course. This course deals with form and content as well as the processes and products of art. It is intended to enrich and deepen the student's awareness and understanding of visual art forms.

ART 112: HISTORY OF ART I 3 s.h.

The study of the art forms of various cultures beginning with the Paleolithic Period and ending with the Renaissance. No prerequisite.

ART 113: HISTORY OF ART II 3 s.h.

The study of the art forms of various cultures beginning with the Renaissance and ending with contemporary movements. No prerequisite.

ART 222: ART IN THE ELEMENTARY GRADES 3 s.h.

The place of art and creative activity in the Elementary Public School curriculum is studied. Concern and information centers around the value of creativity, the art activity as an important part of the total learning of the child, the importance of self-expression, and the development of the child at different age levels. Classroom planning, presentation, motivation methods, and lesson plans are developed in workshops or actual teaching situations. Prerequisite: Art 231.

ART 231: STUDIO RESEARCH IN ART MEDIA 3 s.h.

A basic course for Elementary majors designed to familiarize and develop sensitivity and insight into media and art processes. The student explores shape, line, surfaces, value, color differences, through basic design problems. Various projects explore the characteristics of chalk, crayon, water color, tempera, clay, print media, papier mache, and sculptural material. Two and three dimensional work problems in all media are studied.

ART 232: PAINTING I 3 s.h.

The primary aim of this course is to develop fundamental skills and expression in oil, watercolor, casein, acrylics, and related two dimension media. Emphasis is placed on design and color problems related to painting.

ART 233: ARTS AND CRAFTS 3 s.h.

This is an enrichment course to give a basic experience with crafts to any college student. Developing basic skills, techniques, and processes with a variety of craft materials will provide the student with sufficient knowledge to pursue projects on his own. Fiber manipulations of knotting and weaving techniques, stitching, applique, printing, enameling, book-binding, and batik are only a few possible areas to explore.

ART 234: ELEMENTARY ART WORKSHOP 3 s.h.

A workshop designed to meet the needs of teachers in service. Emphasis is placed on materials, processes, and equipment used in today's elementary art program.

ART 235: PRACTICAL PROBLEMS IN ART EDUCATION 3 s.h.

Practical problems in art education may be and usually are varied in nature. Some students require more information regarding methods of teaching and others feel that more art techniques are desirable. Whatever the students regard as problems are considered the objectives of the course and are studied to the point where students' needs are considered satisfied.

ART 236: COLOR AND DESIGN 3 s.h.

A study of the elements and principles of two dimensional forms in design. Creative processes are stressed. Required of all art majors under the Humanities program.

ART 237: DRAWING AND COMPOSITION I 3 s.h.

Problems in basic drawing with emphasis on technique and compositional approaches in various media. Drawing of objects, perspective and other fundamental problems are a vital part of this course. Inventive interpretations and application of creative approaches are also stressed. Required of all art majors under the Humanities program.

ART 238: DRAWING AND COMPOSITION II 3 s.h.

Drawing problems will be presented that explore the human figure as an art form using varied media. The relationships between personal, creative drawings and composition as they relate to the figure will be emphasized. Prerequisite: Art 237.

- ART 239: THREE DIMENSIONAL DESIGN 3 s.h.
 The exploration of three dimensional design forms to gain a deeper understanding of the elements and principles of design. A continuation of Art 236: Color and Design, which is a prerequisite for this course.
- ART 240: JEWELRY 3 s.h.
 Design and construction of individual pieces of jewelry from sterling silver, semi-precious stones, exotic woods, and other materials. The course deals with soldering techniques, casting techniques, methods of setting stones, chain construction, and all methods known for fabricating jewelry for human adornment.
- ART 241: ADVANCED JEWELRY 3 s.h.
 A continuation of study in the design and construction of jewelry pieces. The student continues his learning and advancing his skills and knowledge of metals, stones, woods, and other materials. Prerequisite: Art 240.
- ART 300: CERAMICS 3 s.h.
 Design and construction of clay pieces in varied techniques and approaches. Basic clay and glaze technology, hand building, throwing, turning, and firing processes.
- ART 301: ADVANCED CERAMICS 3 s.h.
 Students in Advanced Ceramics work with the technical aspects of ceramics — glaze formulation, glaze calculation; experiment with natural local clays and desired clay bodies, decorating methods, glazing, firing techniques — and pursue individual interests. The student works on an independent level investigating desired interests leading to a final individual critique of work accomplished. Prerequisite: Art 300: Ceramics.
- ART 311: GRAPHIC MEDIA AND TECHNIQUES 3 s.h.
 Broad experiences in a wide range of media and processes of graphic expression. Both old and new approaches in lino-cuts, wood block, etching, dry point, lithography, serigraphy, and exploration with new techniques.
- ART 312: SUPERVISED STUDY IN ART 1-6 s.h.
 Opportunity to explore in depth an area of art according to need or interest. Regular weekly sessions with a faculty member in charge to evaluate the progress of the work and chart its direction. Credit and grades will be given only if a scholarly paper or special projects have been completed to the satisfaction of the faculty adviser. Prerequisite: Permission of instructor and department chairman.
- ART 313: CRAFTS IN THE ELEMENTARY SCHOOLS 3 s.h.
 Experimenting with traditional and contemporary materials, processes, and techniques provide the classroom teacher with basic skills to adapt craft experiences to particular age levels. Weaving, stitchery, puppetry, ceramics, jewelry making, printmaking, carving are some areas to be studied.

ART 315: PAINTING II 3 s.h.

An advanced course in use of basic, traditional painting media and experimental two-dimensional media. Oil, watercolor, casein, acrylics, collage, and other mixed media work. Students are encouraged to develop compositions directly from nature, imagination, and memory. Prerequisite: Art 232.

ART 316: SCULPTURE I 3 s.h.

This course emphasizes the aesthetic, structural, and technical principles of three-dimensional form while stressing cast sculpture as a means of artistic expression. The student will experience direct control of clay, wax, plastic, wood, and mixed media while carrying out the various stages of casting in bronze, lead, and aluminum.

ART 317: SCULPTURE II 3 s.h.

Applying principles of three dimensional design the student will carry out the various stages of the "lost wax" process leading to the casting of a sculptural idea in bronze and/or aluminum. Instruction in welding technique is explored sculptural form. Prerequisite: Art 316.

ART 364: SCENE PAINTING 3 s.h.

Studio instruction in the use of brushwork and pigments to develop landscape, ornament, panelling, and architectural detail in stage scenery based on the analysis of form and source of light.

BIOLOGY

BIOL. 111: BASIC BIOLOGICAL SCIENCE 4 s.h.

This course deals with the principles of biology. Topics include cellular structure and physiology, growth and repair, reproduction and development, control, sources of food energy, inheritance, and man's inter-relationship with his biological environment. The classification of plants and animals is reviewed briefly. Not to be taken by students majoring in biology.

BIOL. 153: GENERAL BIOLOGY I* 4 s.h.

A survey of the plant and animal kingdoms, emphasizing structural, physiological, and evolutionary relationships. Patterns of reproduction, heredity, and development are also considered. Three lecture and three laboratory hours weekly. Two credits only if taken following Biol. 111.

BIOL. 154: GENERAL BIOLOGY II* 4 s.h.

A continuation of Biol. 153. These two courses are designed to provide the prospective biology major with a foundation for subsequent courses in the science of biology. The emphasis in Biol. 153 is on biological phenomena in relation to animals; in Biol. 154 in relation to plants. Two hours lecture and four hours laboratory weekly. Two credits only if taken following Biol. 111.

*Students having taken Biol. 111 should not take Biol. 153 or 154, but enroll in a sophomore level course.

- BIOL. 201: GENETICS** 3 s.h.
A study of the principles of inheritance in plants, animals, and microorganisms. Topics considered include: Mendelian genetics, modern genetics, the chemical basis of heredity, linkage, recombination, evolution, population genetics, and human genetics. Two lectures and three laboratory hours weekly. Prerequisite: Biol. 153 and 154 or consent of the instructor.
- BIOL. 202 ENVIRONMENTAL BIOLOGY** 3 s.h.
Interaction of organisms and their biotic and abiotic environment; population dynamics and interactions; the reality of communities; energy transfer with an ecological system; components of the ecosystem. Two lectures and three laboratory hours weekly. Prerequisites: Biol. 153 and 154 or equivalent or consent of the instructor.
- BIOL. 203: CELL BIOLOGY** 3 s.h.
Structure and function of plant and animal cells. Two lectures and three laboratory hours weekly. Prerequisites: Biol. 153, 154 and Chem. 153, 154 and 254 or their equivalents or consent of the instructor.
- BIOL. 204: DEVELOPMENTAL BIOLOGY** 3 s.h.
An introduction to important aspects of development including the chemistry and genetics of development and important features of organogenesis. Two lectures and three laboratory hours weekly. Prerequisites: General Biology, General Chemistry, or permission.
- BIOL. 259: ANATOMY AND PHYSIOLOGY** 4 s.h.
A study of the normal structure of the human body and how it functions. Special attention is given to organs within the systems and their interrelationships. Two lectures and four to six laboratory hours weekly.
- BIOL. 260: MICROBIOLOGY** 3 s.h.
A study of microorganisms including viruses, bacteria, fungi, and protozoa, with emphasis on those associated with human health and disease. Consideration is given to immunity and resistance to infectious diseases and to their epidemiological and public health aspects. Laboratory emphasis is on pathogenic bacteria and the bacteriological and microscopic techniques. Two lectures and three laboratory hours weekly.
- BIOL. 341: GENERAL MICROBIOLOGY** 4 s.h.
A study of microorganisms including viruses, fungi, and bacteria. Culturing, isolation, classification, and ecology of microscopic life from air, water, soil, and dairy products including beneficial and pathogenic forms. Two lectures and six laboratory hours weekly. Prerequisites: Biol. 153, 154 and Chem. 154.
- BIOL. 351: FIELD BOTANY** 3 s.h.
Collection and preparation of plants using herbarium methods. Emphasis on identification of flowering plants in a variety of habitats. Alternate summers. Prerequisites: Biol. 153 and 154.

- BIOL. 352: TAXONOMY OF VASCULAR PLANTS** 3 s.h.
 Systems of classification; collection and identification of flowering plants and ferns of the region; use of keys and herbarium collections. Summers only. Prerequisites: Biol. 153 and 154.
- BIOL. 353: ORNITHOLOGY** 3 s.h.
 An introduction to the biology of birds. Lectures deal with internal and external adaptation for aerial travel, classification, migration, habitats, plumage changes, nesting habits, and ecologic relations. Two lectures and three laboratory or field trip hours weekly.
- BIOL. 354: ENTOMOLOGY** 3 s.h.
 A general study of insects including structure, physiology, classification, economic importance, and relationships. Two lectures and three hours of laboratory or field work weekly.
- BIOL. 356: FIELD ZOOLOGY I** 3 s.h.
 A study of invertebrates in the field including the collecting and preserving of such forms. Emphasis will be placed on taxonomy and ecological relationships. Offered alternate summers.
- BIOL. 357: FIELD ZOOLOGY II** 3 s.h.
 This course deals with the taxonomy and ecological importance of the vertebrates. Given alternate summers.
- BIOL. 358: CONSERVATION OF PLANT AND ANIMAL RESOURCES** 3 s.h.
 An historical account of events in plant and animal resource use and abuse, with major emphasis placed on becoming familiar with current conservation problems by seeing conservation in practice. There are approximately ten field trips: a weekend trip, half day and all day trips, and one evening trip.
- BIOL. 360: PROBLEMS IN BIOLOGY** 1-4 s.h.
 Acquaints the student with skills and techniques used in research. The student identifies a problem for investigation and completes all phases of its study including the writing of a research report. Approval must be secured prior to preregistration from the staff member who will direct the student.
- BIOL. 401: RADIATION BIOLOGY** 3 s.h.
 A course presenting the fundamental aspects of the science of radiology with emphasis on biological applications. The topics studied are physical and genetic effects of radiation on plants and animals; radioactive fall-out and its biological consequences; applications of radioisotopes in biological research; and use of radiation sources and detectors. Prerequisite: One year of chemistry.
- BIOL. 442: MICROBIAL PHYSIOLOGY** 4 s.h.
 A study of the physiological reactions involved in the growth, reproduction, and death of microbes. Emphasis will be placed upon the

metabolism of carbohydrates, proteins, vitamins, and fats. Enzymes, oxidation-reduction potentials, energy relationships, membrane potentials, and nutrients will be considered. Two lectures and four laboratory periods weekly. Prerequisites: Biol. 341 and Chem. 453 or permission of the instructor.

BIOL. 444: IMMUNOLOGY 4 s.h.

An introduction to the fundamental concepts of immunology, immunochemistry, serology, and the role of immunology in epidemiologic studies. Three lectures and three laboratory periods weekly. Prerequisites: Biol. 260 or permission.

BIOL. 451: ANIMAL PHYSIOLOGY 3 s.h.

Study of the comparative physiology of animals. Includes water and ion regulation, circulation, respiration, nutrition, nervous activity, endocrine functions, and responses to temperature, light, gases, and pressure. Two lectures and three hours laboratory weekly. Prerequisite: Biol. 203.

BIOL. 452: PLANT PHYSIOLOGY 3 s.h.

Life processes and responses of plants to the environment. Synthesis, digestion, and assimilation of foods, mineral nutrition, absorption, translocation. Two lectures and three hours laboratory weekly. Prerequisite: Biol. 203.

BIOL. 460: COMPARATIVE VERTEBRATE MORPHOLOGY 3 s.h.

The course traces the most important trends in the evolution of basic structures in vertebrate lines, and conveys an appreciation of how the mammals came to possess the combination of characters that make this group unique. Emphasis is upon evolution and continuity of structure. Laboratory work includes comparative dissection of the dog fish shark, Necturus, and the cat. One lecture and two double periods of laboratory weekly. Prerequisites: Biol. 153, 154.

BIOL. 461: VERTEBRATE EMBRYOLOGY 3 s.h.

A study of the development of the vertebrates, including the formation of germ cells, fertilization, growth and differentiation, and the formation of tissues and organs. One lecture and two double-period laboratories. Prerequisite: One year of biology.

BIOL. 462: HISTOLOGY 3 s.h.

A study of the microscopic structure of tissues comprising the organ system of animals, including man. One lecture and two double-period laboratories. Prerequisite: One year of biology.

BIOL. 470: ANIMAL ECOLOGY 3 s.h.

Interrelationships of animals and their environment, including physical and biological factors. Discussions and investigations will include animal distribution, procuring food, escape from enemies, surviving climate extremes, species diversity, reproduction, and community organization. Field and laboratory. Prerequisite: Biol. 202.

BIOL. 471: PLANT ECOLOGY

3 s.h.

A study of the structure, development, and causes of distribution of plant communities based upon individual studies of the major plants in each group. Emphasis upon plant associations in western Pennsylvania visited during the course. Given alternate summers. Prerequisite: Biol. 202.

BIOL. 472: PARASITOLOGY

3 s.h.

A study of parasites in relation to man and his domesticated animals. Emphasis is placed upon morphology and life histories in addition to the ecology of the parasite. Two lectures and three laboratory hours weekly.

BIOL. 490: EVOLUTION

3 s.h.

This course considers basic modern evolutionary theories. The effect of the changes of the earth's crust on the origin of life and the course of evolution is stressed, as well as variation and natural selection.

BUSINESS ADMINISTRATION

ACCOUNTING

BUS. AD. 151: FINANCIAL ACCOUNTING

3 s.h.

A study of the principles and procedures for collecting, recording, summarizing, and reporting financial information.

BUS. AD. 152: MANAGERIAL ACCOUNTING

3 s.h.

A study of the aspects of accounting that aid managers. Included are budgeting, cost behavior and systems, alternative choice decisions, and cash flow. Prerequisite: Bus. Ad. 151.

BUS. AD. 251: INTERMEDIATE ACCOUNTING

3 s.h.

A study of accounting theory and practice. Topics included are accounting for current assets and liabilities, investments, plant and equipment, intangibles, and long-term liabilities. Prerequisite: Bus. Ad. 152.

BUS. AD. 253: FEDERAL TAXES

3 s.h.

A study of federal income, estate, and gift taxation. Problems of compliance with the law by individuals, partnerships, corporations, estates, and trusts are considered. Prerequisite: Bus. Ad. 151.

BUS. AD. 350: ADVANCED ACCOUNTING

3 s.h.

A consideration of modern developments in accounting, including recent studies and pronouncements by accounting authorities such as the American Institute of Certified Public Accountants and the Securities and Exchange Commission. Included also is a study of the problems of accounting for corporate and partnership equities. Prerequisite: Bus. Ad. 251.

BUS. AD. 351: COST ACCOUNTING, CONTROLS AND ANALYSIS

3 s.h.

Basic consideration of cost principle, procedure, control, and analysis.

Cost accounting as a "tool" of management is stressed. Prerequisites: Bus. Ad. 151, 152.

BUS. AD. 353: AUDITING 3 s.h.

A study of the purposes, the ethical and legal environment, and selected techniques of auditing. Prerequisite: Bus. Ad. 251.

BUS. AD. 451: ACCOUNTING PROBLEMS 3 s.h.

A problem-oriented study of certain specialized areas of accounting. Included are consignments, installment sales, receivership, fiduciary accounting, and governmental accounting. Preparations for the practice portion of the C.P.A. exam is emphasized. Prerequisite: Bus. Ad. 350.

BUS. AD. 452: ACCOUNTING SEMINAR 3 s.h.

This seminar deals with various topics and problems in the field of accounting to which adequate attention is not given in the formally organized course offerings. Students will be required to do independent work and make oral and written reports. Prerequisite: Accounting major and senior standing.

**BUS. AD. 453: PROBLEMS IN FEDERAL TAXATION
ACCOUNTING** 3 s.h.

Federal Income Tax concepts and compliance problems of partnerships, corporations, estates, and trusts. Also a brief consideration of the concepts of social security, estate, and gift taxation. Prerequisite: Bus. Ad. 253.

COMPUTER AND QUANTITATIVE SCIENCE

BUS. AD. 102: INTRODUCTION TO DATA PROCESSING 3 s.h.

An introduction to data processing, its equipment as well as its application to management. Emphasis is placed on the problems of application and selection of the hardware and software required to accomplish the objectives of a manager. Topics presented are EAM equipment, binary codes, I/O devices, operating systems, and programming languages.

**BUS. AD. 103: COMPUTER PRINCIPLES IN BUSINESS
ADMINISTRATION II** 3 s.h.

Advanced techniques in business data processing. Emphasis is placed on constructing programs (cobol), file organization, and properties of operating systems. Prerequisite: Bus. Ad. 102.

NOTE: The curriculum is described on page 50. Course descriptions are listed under Computer Science, pages 137-138, Management, page 132, and Economics, pages 138-140.

FINANCE

BUS. AD. 370: FINANCIAL MANAGEMENT 3 s.h.

A study of the theoretical and analytical framework that a financial manager can use to make decisions in a dynamic economy. Planning the

need for funds, acquiring funds, and efficiently utilizing those funds are some of the topics covered. Prerequisites: Econ. 212, and Bus. Ad. 152.

BUS. AD. 471: SECURITIES ANALYSIS 3 s.h.

A study of securities as an investment device, and the study of techniques of analysis used in selecting securities. Prerequisite: Bus. Ad. 370.

BUS. AD. 476: FINANCIAL PROBLEMS 3 s.h.

A consideration by the case method of the financial problems of business firms. Prerequisite: Bus. Ad. 370.

NOTE: The curriculum is described on page 50. Course descriptions are listed under Economics, pages 138-140.

MARKETING

BUS. AD. 360: PRINCIPLES OF MARKETING 3 s.h.

The topics included are the role of the consumer and consumer motivation; selling and buying functions; physical distribution management; and government regulation and control in marketing. The purpose of the course is to develop an understanding of the increasing complexity of the modern marketing system, why it is essential, and how it performs. Prerequisites: Econ. 211, 212, and junior standing.

BUS. AD. 361: MARKETING MANAGEMENT 3 s.h.

A study of coordinative effort in planning, organizing, and controlling marketing activities that direct the flow of goods and services from producer to consumer. Prerequisite: Bus. Ad. 360.

BUS. AD. 460: SALES MANAGEMENT 3 s.h.

The course will cover the variables concerned with personal selling; the principles, the various concepts and methodologies relating to effective selling, the direct and indirect costs, and the related problems. Also included will be various decision making techniques concerning administration of the sales force. Prerequisites: Bus. Ad. 220 and 360.

BUS. AD. 461: MARKETING RESEARCH 3 s.h.

The application of scientific and statistical methods and tools to the solution of marketing problems are studied. Prerequisites: Econ. 220 and 361.

BUS. AD. 463: ADVERTISING MANAGEMENT 3 s.h.

The uses of advertising and advertising campaigns by business which give emphasis to the patterns and types of marketing strategy and its various functions, legal and moral obligations, problems in developing and evaluating advertising programs, budgeting, scheduling, and client-advertising agency relationship. Prerequisite: Bus. Ad. 360.

BUS. AD. 465: MARKETING PROBLEMS 3 s.h.

A consideration by the case method of the problems facing the

producer and middleman. Prerequisites: Bus. Ad. 360, 361, and senior standing.

BUS. AD. 466: PHYSICAL DISTRIBUTION MANAGEMENT 3 s.h.

Factors involved in selecting marketing channels and problems involved in managing this task efficiently. Prerequisite: Bus. Ad. 360.

MANAGEMENT

BUS. AD. 220: PRINCIPLES OF MANAGEMENT 3 s.h.

The course covers the history of management; the planning, organizing, and controlling processes; production, financing, and marketing factors; and orientation to industrial and labor relations and personnel and supervisory management. The emphasis is placed on the management functions and processes required for effective organization in business activity. Prerequisite: second semester sophomore standing.

BUS. AD. 321: ORGANIZATION THEORY AND BEHAVIOR 3 s.h.

The study of human behavior in organizations; how human beings function in organizations; how organizations pursue their goals; the conditions necessary to secure effective action within organizations; and making and implementing decisions. Emphasis is placed on methods and problems of effectively organizing persons for the achievement of objectives. Prerequisite: Bus. Ad. 220.

BUS. AD. 420: OPERATIONS RESEARCH I 3 s.h.

Scientific methods which provide executive departments with a quantitative basis for making decisions. Emphasis is placed on deterministic methods such as the transportation problem, linear programming, dynamic programming and PERT.

BUS. AD. 421: OPERATIONS RESEARCH II 3 s.h.

Scientific methods which provide executive departments with a quantitative basis for making decisions. Emphasis is placed on probabilistic methods such as inventory control, queueing theory, markov chains, reliability theory and simulation. Prerequisite: Econ. 220.

BUS. AD. 424: PERSONNEL MANAGEMENT 3 s.h.

Manpower recruiting, selecting, testing, and training; compensation theory, policies, and practices, motivation through job enlargement, leadership style, counseling, and disciplinary practices. Case method utilized. Prerequisite: Bus. Ad. 220.

BUS. AD. 425: PRODUCTION MANAGEMENT 3 s.h.

Philosophy of F. W. Taylor and other management pioneers. Nature of the production cycle, simplification and diversification of product lines, purchasing, materials control, routing, scheduling, dispatching, plant layout. Prerequisite: Junior standing.

SPECIALIZED COURSES

BUS. AD. 240: THE LEGAL ENVIRONMENT I 3 s.h.

The background, importance, and role of law in society; the legal system of the United States and its workings; private property and contract in a free enterprise system; and the evolution of legal attitude toward businesses, including the changing relations between business and government. Prerequisite: sophomore standing.

BUS. AD. 241: LEGAL ENVIRONMENT II 3 s.h.

A continuation of the study of law commenced in Bus. Ad. 240: Legal Environment I. Emphasis is placed upon the legal principles involved in the following areas: agency, partnerships and corporations, sales, negotiable instruments, real property. Prerequisite: Bus. Ad. 240.

BUS. AD. 490: GENERAL BUSINESS SEMINAR 3 s.h.

This seminar requires the student to synthesize what he has learned in the separate business fields and to utilize this knowledge in the analysis of complex business problems. Students will be required to do independent work and make oral and written reports. Prerequisite: Business Administration major and senior standing.

BUS. AD. 491: INDEPENDENT STUDIES IN BUSINESS 1-3 s.h.

Opportunity to explore in depth a problem or area of business under the direction of a faculty member of the Division. Prerequisite: 2.75 grade point average and consent of both instructor and department head. Maximum credit granted in Bus. Ad. 491 is 6 credits.

CHEMISTRY

CHEM. 151: INORGANIC CHEMISTRY I 5 s.h.

Intended for chemistry majors and others who desire a rigorous introductory course. Principal subjects covered are atomic and molecular structures, bonding theories, thermochemistry, types of interactions among submicroscopic particles, and properties of solutions. A strong background is desirable but not essential. Students should concurrently schedule Chem. 161.

CHEM. 152: INORGANIC CHEMISTRY II 5 s.h.

Continued investigation of chemical processes and principles, emphasizing equilibria, various concepts of acid-base reactions, chemical kinetics, and nuclear phenomena. Topics covered in less depth are electrochemistry and descriptive chemistry. Students should concurrently schedule Chem. 162. Prerequisite: Chem. 151 or consent of department.

CHEM. 161: INORGANIC CHEMISTRY LABORATORY I 1 s.h.

Laboratory exercises to exemplify and augment the material in Chem. 151. This course must be taken concurrently with Chem. 151 unless it is being repeated.

CHEM. 162: INORGANIC CHEMISTRY LABORATORY II 1 s.h.

Laboratory exercises to exemplify and augment the material in Chem. 152. This course must be taken concurrently with Chem. 152 unless it is being repeated.

CHEM. 153: GENERAL CHEMISTRY I 3 s.h.

This course includes a chemical study of the structure and behavior of matter. Topics stressed are experimental evidence for the structure of atoms, electronic structure and bonding, chemical periodicity, gas laws, and thermochemistry. The mole concept in problem solving is stressed throughout the course. The course is primarily for liberal arts students and other students majoring in a field of science other than chemistry. Chemistry majors should schedule Chem. 151.

CHEM. 154: GENERAL CHEMISTRY II 3 s.h.

Chemistry 154 is sequential to Chemistry 153. Major units presented are solutions and their colligative properties, equilibrium pertaining to pH, ionization, acids and bases, redox reactions, electrochemistry, kinetics, and nuclear chemistry. The course is primarily for liberal arts students and other students majoring in a field of science other than chemistry. Chemistry majors should schedule Chem. 152. Prerequisite: Chem. 153.

CHEM. 163: GENERAL CHEMISTRY LABORATORY I 1 s.h.

Laboratory exercises to exemplify and augment the material in Chem. 153. This course must be taken concurrently with Chem. 153 unless it is being repeated.

CHEM. 164: GENERAL CHEMISTRY LABORATORY II 1 s.h.

Laboratory exercises to exemplify and augment the material in Chem. 154. This course must be taken concurrently with Chem. 154 unless it is being repeated.

CHEM. 211 SCIENCE AND SOCIETY 3 s.h.

This course is intended to present a scientific point of view of some areas in which a better public understanding of science and technology is urgently needed. It examines the complex role of science in our society and the more spectacular problems for which science has received partial blame. A major portion of the course is devoted to an assessment of pollution, the arms race, the energy crisis, and several other technological problems of current interest. The final part of the course deals with specific steps that may be taken by the scientific community, by government, and by the citizen.

A non-mathematical acquaintance with the broad principles of general chemistry is assumed, although most technical aspects of the course will be developed as needed. Prerequisite: Sophomore standing.

CHEM. 251: ORGANIC CHEMISTRY I 4 s.h.

The study of the nomenclature, preparation, and properties of aliphatic and aromatic hydrocarbons and the reactions of the functional groups including alcohols and halides. Stereochemistry, aromaticity, reaction rates, and mechanisms. Prerequisite: Chem. 151, 152, or 153, 154.

CHEM. 252: ORGANIC CHEMISTRY II 5 s.h.

A continuation of Chem. 251. A discussion of the reactions of functional groups and their analysis by modern instrumental methods. The

laboratory includes synthesis and qualitative organic analysis. Prerequisite: Chem. 251.

CHEM. 254: INTRODUCTORY ORGANIC CHEMISTRY 3 s.h.

A modern course which surveys the entire field of elementary organic chemistry, both aliphatic and aromatic, with emphasis on nomenclature, simple reactions and mechanisms, and the structure of organic compounds, together with their relation to biology. This course does not count toward the requirements for a major in chemistry. Prerequisites: Chem. 152 or Chem. 154.

CHEM. 264: INTRODUCTORY ORGANIC CHEMISTRY 1 s.h.
LABORATORY

Important techniques, synthesis and functional group analyses of organic compounds. This course must be taken concurrently with Chem. 254 unless it is being repeated.

CHEM. 255: INDUSTRIAL CHEMISTRY 3 s.h.

This course deals with the application of theories, laws, and calculations of chemistry to industrial processes. This work is supplemented by reading of current literature and trips to chemical industries. Prerequisites: Chem. 151, 152, or 153, 154.

CHEM. 352: TECHNIQUES AND INSTRUMENTS I 4 s.h.

An introduction to quantitative semi-micro, physico-chemical manipulations, beginning with classical wet techniques and progressing to basic electro-chemical and spectrophotometric procedures. The study of ionic equilibria and electrochemistry, begun in the first-year course, is greatly extended here. Prerequisite: Chem. 152 or 154.

CHEM. 354: PHYSICAL CHEMISTRY I 3 s.h.

This course is concerned primarily with the principles of thermodynamics. Kinetics is discussed in the latter portion of the term. The laws of thermodynamics are applied to many problem solving situations. Calculus is used heavily, and a basic familiarity with the handling of simple differentials and integrals is necessary. Kinetics is treated from experimental and mechanistic points of view. Prerequisites: Chem. 152, 162; Physics 252 or 259; Math. 271.

CHEM. 355: PHYSICAL CHEMISTRY II 3 s.h.

Both the classical wave formulation and the concept of operators are developed as approaches to the study of quantum mechanics, and simple one-electron problems are solved. This groundwork is then extended to molecular problems. Spectroscopy is examined in detail, particularly as a tool in the determination of molecular structures. Powder and single-crystal x-ray diffraction techniques are discussed and their use as research tools investigated. Prerequisite: Chem. 354.

CHEM. 356: TECHNIQUES AND INSTRUMENTS II 2 s.h.

A laboratory course stressing thermodynamic and kinetic measurements and the investigations of molecular structure using molecular spectroscopy

and x-ray diffraction. Techniques such as glass-blowing and vacuum line syntheses are also included. Prerequisite: Chem. 354. This course will normally be taken concurrently with Chem. 355.

CHEM. 357: TECHNIQUES AND INSTRUMENTS III 3 s.h.

This course is concerned with the theory, practice, and comparative applicability of several widely differing methods for quantitative monitoring of diverse species in widely varying amounts and environments; additionally, simple laboratory skills are taught. Includes electrometric and spectrophotometric methods beyond those covered earlier, and neutron activation analysis, with training in handling of radioactive materials. Prerequisites: Chem. 352, 354; Chem. 355 concurrently, or consent of department.

CHEM. 359: ADVANCED ORGANIC CHEMISTRY 3 s.h.

A study of reaction mechanisms, synthetic methods, and structure elucidations. Emphasis is placed on correlation of structure and reactivity and on stereochemistry. Prerequisites: Chem. 252, 355.

CHEM. 361: QUALITATIVE ORGANIC ANALYSIS 3 s.h.

The systematic identification of organic compounds and mixtures using classical and instrumental methods. Prerequisite: Chem. 252.

CHEM. 453: BIOCHEMISTRY 4 s.h.

An introduction to modern cellular biochemistry. A study of the structure and chemistry of proteins and nucleic acids and the metabolic transformations of carbohydrates and lipids and protein synthesis. Prerequisite: Chem. 254 or Chem. 251.

CHEM. 455: ADVANCED PHYSICAL CHEMISTRY 3 s.h.

Spectroscopy. Statistical mechanics. Reaction mechanisms. Theory of Kinetics. Nuclear and radiation chemistry. Prerequisite: Chem. 355.

CHEM. 456: ADVANCED INORGANIC CHEMISTRY 3 s.h.

Various concepts of bonding, encountered in previous courses, are extended and compared to gain some appreciation of their uses and shortcomings. Considerable attention is given to steric relationships in many environments. The descriptive chemistry includes recently discovered compound types as well as the classical period-group-subgroup patterns of behavior. Prerequisite: Chem. 355 (may be taken concurrently) or consent of department.

CHEM. 459: DEMONSTRATIONS IN CHEMISTRY 3 s.h.

Studies are made of various demonstration techniques with students devising and applying each with many examples. Special attention is given to the study of the material of the CHEM Study Committee of the American Chemical Society prepared for the purpose of vitalizing high school chemistry courses. Prerequisites: Chem. 151, 152, and at least one other major course.

CHEM. 460: RADIOCHEMISTRY TECHNIQUES 2 s.h.

A general course dealing with radioactive materials, their radiations,

their preparation, purification, detection, identification, practical applications. An introduction to gamma-ray spectroscopy and health physics aspects is also included. Emphasis is placed on laboratory experiences. Prerequisites: Chem 152 or 154; Math. 151 or equivalent.

CHEM. 461: TECHNIQUES AND INSTRUMENTS IV 2 s.h.

Diverse physico-chemical methods not previously covered, including such topics as polarography, photofluorimetry and nephelometry, constant-volume calorimetry and differential thermometry, and further radiochemical techniques. Prerequisite: Chem. 357.

CHEM. 462 TECHNIQUES AND INSTRUMENTS V 2 s.h.

Synthesis and characterization of one or more compounds, using skills and procedures from previous courses in this sequence, as well as appropriate additional ones included in this final laboratory course. Prerequisite: Chem. 357.

CHEM. 465, 466: CHEMICAL RESEARCH 1-3 s.h. each

An independent laboratory problem in some field of chemistry of special interest to the student. Admission only by consent of the instructor and the approval of the Department Chairman. Prerequisites: Chem. 355, 357.

CHEM. 470: CHEMICAL LITERATURE AND SEMINAR 1-2 s.h.

The use of scientific literature; sources of material; the literature search prior to laboratory investigation. Compilation of bibliography. Organization and writing of research reports and other technical studies. Presentation of papers and oral reports of research and technical reviews. Prerequisites: Chem. 252, 354.

COMPUTER SCIENCE

COMP. SCI. 101: COMPUTER SCIENCE I 3 s.h.

Beginning course in computer programming. Includes introduction to the operation of third generation computers. Basic concepts of flow-charting and programming, including BAL (Basic Assembly Language). Emphasis is placed on writing and 'debugging' programs with the use of an IBM 360/40 computer.

COMP. SCI. 102: COMPUTER SCIENCE II 3 s.h.

Advanced techniques of basic assembly language programming using the IBM 360/40 computer. Emphasis is placed on writing and analyzing programs using card, tape, and disk files. Prerequisite: Computer Science I.

COMP. SCI. 201: COMPUTER SCIENCE III 3 s.h.

Further advanced techniques of Basic Assembly programming including physical input/output routines and creation of macro routines. Concepts of Fortran and other languages which meet the needs of the math student will be included.

COMP. SCI. 301: COMPUTER SCIENCE V

3 s.h.

An advanced course in the sequence of Computer Science courses requiring background in Assembler Language and Fortran. This course will develop such areas as overlay techniques and conservation of storage, linkage routines for subroutines, linkage editor maps, debugging operations and evaluation of core dumps. Expansion of scientific routines to utilize compile time formatting of input and output. Documentation standards, documentation and flowcharting techniques. Terminal languages such as APL, ITF and other compiler languages available will be presented as possible approaches to problem solving. Prerequisites: Computer Science 102 and 201.

ECONOMICS

ECON. 211: PRINCIPLES OF ECONOMICS I

3 s.h.

Introduction to economics, national income analysis, money and banking, monetary and fiscal policy.

ECON. 212: PRINCIPLES OF ECONOMICS II

3 s.h.

Consumer behavior and demand; organization of production; market structures and the pricing of outputs and inputs; international economics and selected economic problems. Prerequisite: Econ. 211.

ECON. 220: ELEMENTS OF STATISTICS

3 s.h.

Measures of central tendency; dispersion time series analysis; index numbers; introduction to statistical inference; regression and correlation analysis; chi square analyses. Prerequisites: Math 132; Econ. 211 and 212.

ECON. 310: MICROECONOMIC THEORY

3 s.h.

Basic concepts of microeconomic theory. The behavior of consumers, producers, and markets. Prerequisites: Econ. 211 and 212.

ECON. 311: MACROECONOMIC THEORY

3 s.h.

National income accounting and analysis; economic indicators and measures; fluctuations and growth; the role of money in a dynamic economy; forecasting for the economy and the firm; the problems of public policy. The objective of this course is to develop in the student an awareness of the impact of dynamic forces on economic activity in general and specifically on the decisions which must be made by individuals and firms. Prerequisites: Econ. 211 and 212.

ECON. 312: COMPARATIVE ECONOMIC SYSTEMS

3 s.h.

Analysis of alternative patterns of economic control, planning, and market structure. Experiences under capitalism, socialism, and mixed economics are compared and evaluated. Prerequisites: Econ. 211 and 212.

ECON. 340: GOVERNMENT REGULATIONS

3 s.h.

An examination of the major economic problems arising from public interest in competition, business practices, and labor. The anti-trust laws and regulations are included. Prerequisites: Econ. 211 and 212.

ECON. 341: PUBLIC UTILITIES 3 s.h.

An analysis of public policies and methods regarding industries with a public interest with emphasis on transportation, power and communication. The study of legal and financial aspects of public utilities are part of this course. Prerequisites: Econ. 211 and 212.

ECON. 351: INDUSTRIAL RELATIONS 3 s.h.

A study of union history, structure, and functions in the United States economy. Collective bargaining, labor laws, and government policies toward labor are included. Management reaction to organized labor unions and related labor problems are stressed. Prerequisites: Econ. 211 and 212.

ECON. 361: INTERNATIONAL ECONOMIC RELATIONS 3 s.h.

Theory and practice of international trade. Balance of payments, foreign exchange, national commercial policies, international investment, and foreign aid are considered. Prerequisites: Econ. 211 and 212.

ECON. 370: MONEY AND BANKING 3 s.h.

Nature and origins of money; the commercial banking system and money creation; central banking and the Federal Reserve System; monetary policy and domestic and international economic stability. Prerequisites: Econ. 211 and 212.

ECON. 371: PUBLIC FINANCE 3 s.h.

Economic origins of government and thus of public finance. Fiscal policy and full employment, economic growth and income redistribution. Nature and origins of the public debt and problems of managing the public debt. Major emphasis is upon Federal finance, though state and local finance receives attention. Prerequisites: Econ. 211 and 212.

ECON. 410: MANAGERIAL ECONOMICS 3 s.h.

The purpose of this course is to show how economic analysis can be used in formulating business policies. The topics studied are: elements of decision theory and criteria for decision-making by the firm; output and "scale" decisions; linear programming; concepts of profits, production and cost functions, equilibrium (industry and firm) competition; demand theory; pricing policies; capital budgeting and investment decisions; analysis of uncertainty; and inventory management. Prerequisites: Econ. 220, 310; Bus. Ad. 152.

ECON. 414: URBAN AND REGIONAL ECONOMICS 3 s.h.

Urban and regional economics is an introduction to the study of subnational economics. The general focus is on the issues of stability, growth, and distribution of income. Specific topics covered are elementary trade theory, location theory, systems of cities, land use changes, economic accounting systems, and economics of the public sector. Prerequisites: Senior standing or consent of instructor.

ECON. 423: STATISTICAL TOOLS FOR QUANTITATIVE ANALYSIS 3 s.h.

Application of the statistical methods of probability, sampling, estima-

tion, analysis of variance, regression, and correlation in the areas of economics and business. Prerequisites: Econ. 220 and Math 132.

ECON. 470: BUSINESS CYCLES 3 s.h.

Theories of business fluctuations; applications of modern income theory to business cycles; patterns of cyclical behavior and of long-term economic change. Implications for public policy. Prerequisite: Econ. 359.

ECON. 490: HISTORY OF ECONOMIC THOUGHT 3 s.h.

This course traces the development of economic ideas from ancient times down to the present, with special emphasis on the period beginning with Adam Smith. Attention is given to the economic and political environment in which the ideas emerged and to important biographical details of some of the leading economists who advanced or held the ideas. Prerequisite: Econ. 211 and 212 and Senior standing.

ECON. 491: INDEPENDENT STUDIES IN ECONOMICS 1-3 s.h.

Opportunity to explore in depth a problem or area of economics according to the student's need or interest, under the direction of a faculty member of the Division. Prerequisite: 2.75 grade point average and consent of both instructor and department head. Maximum credit granted in Econ. 491 is 6 credits.

ECON. 492: ECONOMICS SEMINAR 3 s.h.

This seminar deals with topics and problems in the field of economics which have been omitted or treated briefly in the formally organized course offerings. The topics to be analyzed will depend on the interests as well as preparation of the students. Students will be required to do independent work and make oral and written reports. Prerequisite: Economics Major and Senior standing.

EDUCATION

ED. 221: DEVELOPMENTAL READING 3 s.h.

A broadly based course which emphasizes improvement in rate, comprehension, reading taste, and independence in reading. Students are introduced to wide and varied sources of reading and numerous means of improvement in reading skills. Instruction in theory and an introduction to the possibilities of a supplementary mechanical program for reading improvement are included. Prerequisite: El. Ed. 323 or Ed. 333.

ED. 223: SOCIAL FOUNDATIONS OF EDUCATION 3 s.h.

An introduction course to teacher preparation including the social aspects of teaching, the educational aspects of the environment, the influence of social class on learning, the social functions of the schools, and the educational problems of a changing society. Requirements and opportunities for careers in education are related to programs for teacher preparation.

ED. 224: EDUCATIONAL TESTS AND MEASUREMENT 3 s.h.

Professional techniques for educational testing procedures applied to

the administration, construction, interpretation, and statistical computation of educational measurements. A first course.

ED. 321: METHODS OF TEACHING AND EVALUATING ENGLISH 3 s.h.

This course gives consideration to the following: the place of English in the curriculum of the free public school in America; specific procedures for teaching and evaluating oral and written composition, English usage, and literature; the school-wide English program; and the administration of the school paper and the yearbook.

ED. 322: METHODS OF TEACHING AND EVALUATING FRENCH 3 s.h.

This course includes training in phonetics as well as in teaching procedures currently considered most effective at the secondary and also the elementary levels. Prerequisite: French 251.

ED. 323: METHODS OF TEACHING AND EVALUATING GEOGRAPHY 3 s.h.

A survey of available materials and current curricula in the field of geography form the basis for an analysis of modern techniques in the teaching of geography. Emphasis is placed on the nature, scope, and contributions of geography to general education. Time is devoted to the evaluation of recent textbooks, supplementary readers, government publication, magazines, maps, and pictures. The development of the best methods, techniques, and skills in the use of all teaching aids and in the guiding of pupils in their study is the leading objective of the course.

ED. 324: METHODS OF TEACHING AND EVALUATING MATHEMATICS 3 s.h.

Place and function of mathematics in secondary education; content and improvement and evaluation of instruction in mathematics; acquaintance with current literature and research; observation in secondary schools. Prerequisite: 9 hours of college mathematics.

ED. 326: METHODS OF TEACHING AND EVALUATING SOCIAL STUDIES 3 s.h.

This course is intended to familiarize prospective teachers with desirable methods which may be used in teaching the social studies. Emphasis is placed on the philosophy, objectives, course of study, and organization of subject matter for teaching purposes, curriculum materials, procedures and development.

ED. 327: METHODS OF TEACHING AND EVALUATING SPANISH 3 s.h.

Materials, methods, and problems are covered in the teaching of Spanish on the secondary level. Observations and readings in methodology are extra-class activities.

ED. 328: METHODS OF TEACHING AND EVALUATING COMMUNICATIVE ARTS 3 s.h.

A methods course designed to prepare seniors for student teaching.

Consideration is given to such areas as: the place of speech in education, classroom procedures, diagnosis of speech needs, criticism of classroom speaking, evaluation of results of instruction, and supervision of extra-curricular activities. Prerequisites: 12 credits in Speech including SCT. 113.

ED. 329: AUDIO-VISUAL COMMUNICATION 2 s.h.

Audio-Visual Communication is the study of educational theory and practice concerned with the design and use of messages which control the learning process.

ED. 331: METHODS OF TEACHING AND EVALUATING
FOREIGN LANGUAGES (APPLIED LINGUISTICS) 3 s.h.

Lectures, discussions, and extensive reading on language learning and language teaching, with an introduction to applied linguistics. Required of all foreign language education majors except those taking Ed. 322 or 327.

ED. 332 BIOMETHODS 3 s.h.

A course designed to prepare biology teachers for the secondary schools. Emphasis is on formulating objectives, selecting and organizing content, developing skill in using a variety of teaching strategies, and evaluating pupil progress. The investigatory approach to teaching biology is stressed in laboratory, field, and simulated teaching experiences. Observations and teaching experiences in area schools are included.

ED. 333: TEACHING OF READING – SECONDARY 3 s.h.

An overview of physiological and psychological aspects of reading and methods applicable for group and individual instruction at the junior and senior high school levels. English majors who wish to qualify for certification in reading should schedule this course as a prerequisite to all other courses in reading. Not open to Elementary Education majors.

ED. 334: METHODS OF TEACHING THE PHYSICAL
SCIENCES 3 s.h.

Modern concepts of chemistry, physics, and general science teaching and evaluating with emphasis on a laboratory oriented approach. The philosophy, laboratory techniques, curriculum, testing, and extra-curricular aspects of secondary school chemistry, physics, and general science teaching will be presented. Prerequisite: For secondary chemistry majors – 16 s.h. in chemistry; for comprehensive science majors – 16 s.h. of biology, chemistry, physics and/or applicable geography courses; for physics majors – ten hours of physics.

ED 422: PROFESSIONAL PRACTICUM INCLUDING
SCHOOL LAW 2 s.h.

Special attention to the practical application of techniques of teaching and classroom management, comparison of techniques in specialized areas, typical problems encountered in student teaching, general principles of school law, and Pennsylvania school laws pertaining to the work of the classroom teacher. Limited to student teachers except by special arrangement.

ED. 423, 424: LIBRARY PRACTICE AND SECONDARY
STUDENT TEACHING (6, 6) — 12 s.h.

Two major assignments are required: the equivalent of one-half time in public school library practice and the equivalent of one-half time in classroom academic teaching, both under the supervision of approved cooperating librarians and teachers in public school student teaching centers affiliated with the College.

ED. 424: SECONDARY STUDENT TEACHING 12 s.h.

Observation and participation in teaching and in activities related to the performance of a teacher's work in the area of the student's specialization. Assignments for secondary student teaching are completed at off-campus public school teaching centers associated with the College.

ED. 426: READING PROBLEMS IN THE SECONDARY
SCHOOL 3 s.h.

The course prepares the teacher to plan corrective procedures which will eventuate the return of the student to his appropriate level of reading and comprehension in the diversified and comprehensive reading needs of the secondary school. Prerequisite: Ed. 333.

ED. 431: TEACHING THE EXCEPTIONAL CHILD

A consideration of the problems connected with the education of the non-typical child — the mentally handicapped, the gifted, the blind, the deaf, the crippled, speech defective, and socially maladjusted. The selection, construction, and adaptation of learning aids and materials.

ELEMENTARY EDUCATION

EL. ED. 110: INTRODUCTION TO ELEMENTARY
EDUCATION 3 s.h.

This course will familiarize the student with the aims, organization, and pupil population of the public schools with an emphasis on the elementary program. It will also familiarize the student with the social, historical, philosophical and political foundations of education in the United States. These learnings will be internalized through directed observations and firsthand experience in cooperating public schools or the proposed Research Learning Center and Conservation Education Center of the college.

EL. ED. 231 CREATIVE ACTIVITIES 3 s.h.

Exploration of the nature and value of creativeness together with classroom opportunities for its development. Consideration of the unit of work and the guidance of children in creative learning and expression. Student participation in individual and group projects by which they demonstrate how creativeness can be fostered in the elementary school.

EL. ED. 321: CHILD DEVELOPMENT 3 s.h.

Acquisition of understanding and appreciation of the mental, physical, social, and emotional aspects of development. Emphasis on techniques of

dramatic play. Campus school experiences, directed reading, and films.

EL. ED. 422: PROFESSIONAL PRACTICUM INCLUDING SCHOOL LAW 2 s.h.

Problems, practices, and regulations attending student teaching professional experiences. Coordination of the student teaching program with the educational objectives of the student teaching centers. Pennsylvania school laws relevant to the work of the beginning elementary school teacher. Practical interpretations of professional ethics and the functions of professional organizations. Limited to student teachers.

EL. ED. 424: ELEMENTARY STUDENT TEACHING 12 s.h.

Observation and participation in teaching and in activities related to the performance of a teacher's work. The semester's program is divided into two student teaching assignments involving experience at two grade levels. Most assignments for elementary student teaching are completed at public school off-campus student teaching centers associated with the College.

EL. ED. 423, 424: LIBRARY PRACTICE AND ELEMENTARY STUDENT TEACHING (6, 6) - 12 s.h.

Observation and participation in teaching and in activities related to the performance of a teacher's work. The semester's program is divided into two student teaching assignments involving experience at one grade level and an elementary school library. Most assignments for elementary student teaching are completed at public school off-campus student teaching centers associated with the College.

ENGLISH

ENG. 111: FRESHMAN COMPOSITION 3 s.h.

This course emphasizes the development of practical skills in expository writing through writing experiences and the study and analysis of prose models. When necessary, work is done in punctuation, basic grammar, and spelling. This course is a college-wide requirement; however, it may under some circumstances be exempted.

ENG. 112: EXTENDED COMPOSITION 3 s.h.

This course offers further development in basic composition skills for those students who have earned a grade of "D" in Freshman Composition. This course is open ONLY to those students.

ENG. 151: COMPOSITION AND LITERATURE 3 s.h.

This course stresses the writing of papers as a direct result of reading, discussion and interpretation of a variety of literary types. The short story, the drama, and the poem are examined from several points of view. Research techniques and related skills are utilized as needed. Prerequisite: exemption from or completion of the General Education English requirement.

- ENG. 211: EUROPEAN BACKGROUNDS AND TRADITIONS I 3 s.h.
 This course focuses upon literary backgrounds and traditions which are antecedent to and which extend through the Elizabethan Renaissance. No prerequisite.
- ENG. 212: EUROPEAN BACKGROUNDS AND TRADITIONS II 3 s.h.
 This course continues an examination of literary traditions and backgrounds from the Renaissance through the present. No prerequisite.
- ENG. 221: ENGLISH LITERATURE FROM THE BEGINNINGS TO 1800 3 s.h.
 This is a survey of English literature beginning with the Beowulf poem and extending through the works of such figures as Chaucer, Malory, Spenser, Shakespeare, Milton, Dryden, Pope, Swift, Gray, and Blake.
- ENG. 222: ENGLISH LITERATURE FROM 1800 TO THE PRESENT 3 s.h.
 This second half of a survey of English literature begins with the Lyrical Ballads of Wordsworth and of Coleridge and includes such figures as Byron, Shelley, Keats, Macaulay, Tennyson, Browning, Arnold, Hardy, Yeats, and Eliot.
- ENG. 251: BUSINESS WRITING 3 s.h.
 This course is designed to meet the specific needs of those students whose skills in written communication are oriented toward the world of business. Prerequisite: satisfactory completion of or exemption from the General Education English requirement, and minimum sophomore standing.
- ENG. 253: ENGLISH GRAMMAR: TRADITIONAL AND TRANSFORMATIONAL 3 s.h.
 This course is devoted, first, to an intensive study of traditional English grammar, and second, to an introduction to transformational grammar.
- ENG. 285: CONTEMPORARY BLACK AMERICAN LITERATURE — 1910 TO THE PRESENT 3 s.h.
 This course is designed to give insight into the Black experience through the reading and discussion of the works of Black writers who have made significant contributions to literature. No prerequisite.
- ENG. 291: SHORT FICTION OF THE TWENTIETH CENTURY 3 s.h.
 This course concentrates on the developments in the short story of the twentieth century. Readings are drawn from such modern writers of wide reputation as Kafka, Joyce, Faulkner, Camus, and Lagerkvist.
- ENG. 312: MODERN DRAMA 3 s.h.
 A comprehensive view of the best dramatic literature of the modern American and British theater since 1890 is presented through lectures, discussion, and experiences related to the contemporary stage.

ENG. 317: MILTON 3 s.h.

The work in this course will cover the major prose and poetry of John Milton. The study will emphasize Milton's reflection and interpretation of the political, religious, and social problems of the seventeenth century from 1625 to the Restoration period. Prerequisite: English majors are expected to have completed English literature or comparable courses in English field. Upperclassmen in other fields may register for Milton.

ENG. 320: PROSE OF THE AMERICAN RENAISSANCE 3 s.h.

This course is the study of a selected group of writers to illustrate their contributions to American art and thought and their relations with the development of Romanticism in the first half of the nineteenth century. Emphasis is given to Poe, Hawthorne, Melville, Emerson, and Thoreau. No prerequisite; however, Eng. 211 or Eng. 212 is recommended.

ENG. 321: AMERICAN PROSE OF THE LATE 19TH CENTURY 3 s.h.

This course is a study of a selected group of writers to illustrate the development of realism and beginnings of naturalism in American literature in the later half of the nineteenth century and the first part of the twentieth century. The course concentrates on representative figures such as Clemens, Howells, Crane, James, Norris, and Dreiser. No prerequisite; however, Eng. 211 or Eng. 212 is recommended.

ENG. 322: AMERICAN PROSE FROM 1900-1940 3 s.h.

This course is a study of a selected group of writers to illustrate the development of modern American literature as a reflection of and comment upon our twentieth century experience. The course concentrates upon such representative figures as Anderson, Cather, Lewis, Dos Passos, Fitzgerald, Faulkner, Hemingway, Wolfe, and Steinbeck. No prerequisite; however, Eng. 211 or Eng. 212 is recommended.

ENG. 323: CONTEMPORARY AMERICAN PROSE 3 s.h.

This course is a study of significant American writers since World War II. No prerequisite; however, Eng. 211 or Eng. 212 is recommended.

ENG. 332: NINETEENTH CENTURY BRITISH NOVEL 3 s.h.

This course offers an opportunity to explore the English novel from Austen to Hardy. Nine or ten novels will be studied with selections from: Austen, Scott, Eliot, Dickens, Thackeray, Disraeli, Meredith, Trollope, the Brontes, Gaskell. No prerequisite; however, one semester of English literature survey (Eng. 211 or Eng. 222) is recommended.

ENG. 333: TWENTIETH CENTURY BRITISH NOVEL 3 s.h.

This course is an in-depth study of the modern British novel from its beginnings in the late nineteenth century to the present. Nine or ten novels will be intensively examined, with selections from such authors as: Hardy, Conrad, Wilde, Lawrence, Joyce, Forester, V. Woolf, A. Huxley, Orwell, Green. No prerequisite; however, one semester of English literature survey (Eng. 221 or Eng. 222) is recommended.

ENG. 421: SEVENTEENTH CENTURY PROSE AND POETRY 3 s.h.

This course explores the major writers of prose and poetry of the Seventeenth Century, with the exception of John Milton. While the emphasis is shared by the prose writers and the Metaphysical poets, other major trends in poetry are surveyed. Prerequisites: English 221 or English 222. Upperclassmen in other fields may register for Milton.

ENG. 426: THE AGE OF DRYDEN AND POPE 3 s.h.

This course is an in-depth study of the works of writers of the period 1660-1744, tracing the development of English neo-classicism from the Restoration to the death of Alexander Pope and tracing too the development of forces which run counter to the neo-classical impulse. The course will deal with the works of such writers as Rochester, Dryden, Pepys, Swift, Defoe, Addison, Steele, Fielding, and Thomson. No prerequisite though Eng. 221 is recommended.

ENG. 427: THE AGE OF JOHNSON 3 s.h.

This course is an in-depth study of the writers of the period 1744-1798, tracing the rise of romantic and sentimental forces and the decline of the neo-classical impulse. The course focuses on Johnson and his circle but deals extensively too with the works of such writers as Gray, Burns, and Blake. No prerequisites, though the survey and English 426 is recommended.

ENG. 431: ENGLISH DRAMA FROM THE BEGINNINGS
TO 1660 3 s.h.

This course traces the development of English drama from its beginnings to the closing of the theaters. Particular emphasis will be placed upon medieval roots and upon the major Elizabethan and Jacobean playwrights. No prerequisites, though the survey is recommended.

ENG. 441: ENGLISH ROMANTIC LITERATURE: 1789-1832 3 s.h.

The major works of Wordsworth, Coleridge, Byron, Shelley, Keats, and their contemporaries are considered and related to the intellectual, political, and social currents of the time.

ENG. 443: NINETEENTH CENTURY BRITISH PROSE 3 s.h.

This course explores the major non-fiction writers of nineteenth century England. It emphasizes intensive study of such writers as Lamb, Hazlett, DeQuincy, Carlyle, Mill, Newman, and Ruskin. Prerequisites: English 221, English 222.

ENG. 444: ENGLISH POETRY 1830-1900 3 s.h.

This course explores the major poets of Victorian England. It examines intensively such poets as Tennyson, Browning, Arnold, Swinburne, the pre-Raphaelites, Morris, and Meredith. Prerequisites: English 221, English 222.

ENG. 453: CHAUCER 3 s.h.

The course is an intensive study of *The Canterbury Tales* and *Troilus and Criseyde* together with Chaucer's English and continental background.

ENG. 455: CRITICISM 3 s.h.

The course is a historical study of literary criticism and aesthetic theory with emphasis upon modern trends.

ENG. 456: ENGLISH HONORS SEMINAR 3 s.h.

Devoted to intensive study of selected writers and their works, the seminar is designed to offer excellent students opportunities for advanced and unusually challenging study in literature. Admission by departmental invitation.

ENG. 457: INTRODUCTION TO LINGUISTICS 3 s.h.

The course presents the essentials of descriptive, historical, comparative, and structural linguistics and demonstrates the interrelationship between linguistics and other fields such as phonetics, semantics, and foreign languages. The course offers students an opportunity to increase their functional knowledge through study of vocabulary, tools, and applications of linguistics.

ENG. 458: HISTORY OF THE ENGLISH LANGUAGE 3 s.h.

The history of the English language; a study of its origins and changes in structure, usage, pronunciation, spelling, vocabulary, and meaning.

ENG. 459: OLD ENGLISH LANGUAGE AND LITERATURE 3 s.h.

An introduction to the essentials of Old English grammar; readings in simple Old English prose and poetry.

FRENCH

In addition to courses listed below, students of French have an opportunity to study for a summer, a term, or an entire academic year in France and/or Canada.

FR. 151: FRENCH I (ELEMENTARY I) 4 s.h.

Essentials of grammar, inductively presented. Emphasis on aural comprehension and oral expression, with extensive use of the language laboratory. Students may not receive credit for this course until French 152 has been successfully completed. Exceptions may be made for seniors and transfers upon the recommendation of the department head.

FR. 152: FRENCH II (ELEMENTARY II) 4 s.h.

Continuation of French 151, with increasing emphasis on graded reading material. Prerequisite: French 151 or permission of the instructor.

FR. 153: ELEMENTARY FRENCH CONVERSATION 3 s.h.

Conversational practice, with extensive oral drill on grammatical patterns. Designed for those students who have met the prerequisites for French 251 but are lacking in aural-oral proficiency. May be taken concurrently with French 251.

FR. 251: FRENCH III (INTERMEDIATE I) 3 s.h.

Brief systematic review of basic grammar; graded readings, conversation

and composition on everyday topics. Prerequisites: French 152 or two years of high school study and/or a satisfactory placement test score.

FR. 252: FRENCH IV (INTERMEDIATE II) 3 s.h.

Intensive reading of selected short stories and/or other works; outside reading, with oral and/or written reports. Prerequisites: French 251 or three years of high school study and/or a satisfactory placement test score.

FR. 255: FRENCH CIVILIZATION I 3 s.h.

A survey of French geography, history, literature, and culture designed to equip teachers with the materials and understanding necessary to the presentation of the language as a rich, meaningful, and integral part of a great civilization. Prerequisites: French 252 or four years of high school study and/or a satisfactory placement test score.

FR. 256: FRENCH CIVILIZATION II 3 s.h.

Continuation of French 255, which is prerequisite. These two courses are required of all majors.

FR. 260: THE FRENCH SHORT STORY 3 s.h.

A study of representative short stories of the nineteenth and twentieth centuries. All readings and discussions in French.

FR. 300: FRENCH LITERATURE IN TRANSLATION 3 s.h.

A study of representative French literary works, with particular emphasis on the characters and ideas which have influenced both French and other literatures. The course is conducted in English; no knowledge of French required; no prerequisites.

FR. 351: ADVANCED FRENCH GRAMMAR AND COMPOSITION 3 s.h.

Intensive oral and written drill with emphasis on finer points of grammar, colloquial, and idiomatic usage. English-to-French translation, free composition, and conversation on everyday topics. Prerequisites: French 255 and 256 or one literature course.

FR. 353: THE MODERN FRENCH DRAMA 3 s.h.

French drama from the 1890's to the present day. Playwrights principally treated are Maeterlinck, Claudel, Cocteau, Giraudoux, Anouilh, Sartre, Camus, Beckett, and Ionesco.

FR. 354: THE MODERN FRENCH NOVEL 3 s.h.

A study of seven major French novelists of the 20th Century: Proust, Gide, Malraux, Mauriac, Sartre, Camus, and Bernanos.

FR. 355: FRENCH ROMANTICISM 3 s.h.

A study of French Romanticism from Chateaubriand to the Revolution of 1848. Major figures: Chateaubriand, Stendhal, Balzac, and Hugo.

FR. 356: FRENCH POETRY FROM BAUDELAIRE TO SURREALISM 3 s.h.

A survey of the major trends in French poetry from Baudelaire to the

early 20th Century, particularly Baudelaire, Rimbaud, Verlaine, Mallarmé and Valéry.

FR. 357: THE FRENCH REALISTIC NOVEL 3 s.h.

A study of French realism and naturalism from the Revolution of 1848 to 1900. Major figures: Balzac, Flaubert, Zola, and Daudet.

FR. 358: THE LITERATURE OF THE AGE OF ENLIGHTENMENT 3 s.h.

Readings of essays, drama, and fiction of the 18th Century. Major figures: Montesquieu, Voltaire, Diderot, and Rousseau.

FR. 359: THE LITERATURE OF THE CLASSICAL AGE 3 s.h.

Classical French philosophy, drama, and poetry: Corneille, Racine, Molière, Pascal, Descartes, La Fontaine.

FR. 451: SUPERVISED READINGS IN FRENCH LITERATURE 3 s.h.

As the title suggests, the course is devoted to selected readings determined in relation to the needs and interests of the individual major.

GENERAL STUDIES

Courses carrying the G.S. label are interdisciplinary in nature or are courses which do not fit into any of the usual academic disciplines. They are taken as free electives under general education.

G.S. 220: HUMAN SEXUALITY 3 s.h.

A basic course in self-understanding. The student is given the opportunity to be informed on the physical, mental, emotional, and social components of sexuality as they relate to attitudes toward self and others. The roles involved in being male or female are explored as well as developing relationships and the responsibilities of such relationships.

G.S. 230: MAN IN THE BIOSPHERE 3 s.h.

A study of functional relationships of man and his total environment.

G.S. 240: PERSONAL FINANCE 3 s.h.

Major aspects of personal financial management including budgeting of income and expenditures, transactions and relations with banks, and other lending institutions, insurance and retirement plans, home ownership, personal taxes, savings and investment plans.

G.S. 242: YOU AND THE LAW 3 s.h.

A survey of the major fields of law with an emphasis on historical development, basic legal principles, legal theory, and procedure, and their relation to the individual.

G.S. 330: PROBLEMS AND PROSPECTS IN THE INNER-CITY 3 s.h.

A multi-perspective examination of the interrelationship between the inner-city school and minority youth. The course will include the

sociological foundations of the minority communities and the urban setting, characteristics of the minority student, the dynamics of the school structure, and racism. Particular emphasis will be given to an analysis of the complexities of the urban classroom, teacher roles, and strategies for change. The course will emphasize a humanistic approach to these problems.

GEOGRAPHY AND EARTH SCIENCE

E.S. 111: BASIC EARTH SCIENCE 3 s.h.

A survey of the Earth Sciences including Earth-space relations, Earth motions, development of land forms, weather and climate, soils and related vegetation, water as a resource of the land, oceans. Emphasis is on the lithosphere (mountain building and erosion) and the atmosphere. Called Basic Physical Geography in older catalogues.

GEOG. 130: INTRODUCTION TO CULTURAL GEOGRAPHY 3 s.h.

A geographic study of man's interaction with the global environment and resulting humanized, cultural landscapes. Students examine related problems of population and settlement, the origin and diffusion of culture-elements, levels of culture, agricultural and industrial complexes, and their impact upon our deteriorating environment.

GEOG. 251: ECONOMIC GEOGRAPHY 3 s.h.

The production, exchange, and use of the basic commodities of the world; the relationship between the physical factors and economic conditions and the patterns of major economic activities, world trade and trade routes; economic landscapes; problems of economic development. Recommended for majors in economics, history, and political science.

E.S. 252: PHYSICAL GEOLOGY 3 s.h.

A study of the earth (minerals and rocks) and the processes, both constructional and destructional, which have shaped it since it was formed. Constructional processes include volcanism, mountain building, and sedimentation. Destructional processes include the erosional activity of streams, glaciers, ground water, waves, and wind. In connection with these topics, an effort is made to acquaint the student with the methods and work of geologists and with some of the research at the frontiers of geology. The course includes a field trip into local areas. No prerequisites.

E.S. 253: LAND FORMS 3 s.h.

A study of the physical forces that sculpture and modify the landforms of the earth, including chiefly weathering, streams, glacification and shore processes. Some preliminary work on topographic and geologic maps and rocks is included. Called Geomorphology in older catalogues. Prerequisite: E.S. 252 (Physical Geology) or consent of instructor.

GEOG. 254: CONSERVATION OF NATURAL RESOURCES 3 s.h.

The use and conservation of the nation's resources of water, land, forest, wildlife, minerals, power, and human resources.

- GEOG. 255: TRADE AND TRANSPORTATION** 3 s.h.
 A geographic inquiry into world-wide forces of supply and demand and related transport modes and media. The central producer and service functions of population centers; world trade patterns of commodities, economic blocs, stages of economic development; and problems related to the economic interdependence of regions and nations. A course based on concepts learned in Economic Geography (Geog. 251).
- GEOG. 256: GEOGRAPHY OF PENNSYLVANIA** 3 s.h.
 A regional analysis of Pennsylvania, emphasizing man's cultural and economic response to environmental factors. Special attention is given to the resources of the state, analyzing their extent, their use, the need for well directed conservation, and the regional planning program of the Commonwealth. Field trips are an integral part of the course.
- GEOG. 257: GEOGRAPHY OF THE UNITED STATES AND CANADA** 3 s.h.
 An analysis of geographic problems, natural and cultural, of the U.S. and Canada; the synthesis of physical, biotic, economic, and social patterns and problems of geographic regions of North America; the interrelationship of North American political structures and their ties with the rest of the world.
- E.S. 258: HISTORICAL GEOLOGY** 3 s.h.
 The course deals with the interpretation of the record of the rocks and the geologic history of the earth with emphasis on North America. The physical history of the continent and the development of life, especially backboneed forms, are discussed. Regional geologic history is illustrated by selected areas, notably Appalachia. Prerequisite: E.S. 252.
- GEOG. 259: MAP INTERPRETATION** 3 s.h.
 A broad study of maps, charts, and atlases which is designed to develop an awareness of the great variety of maps available and to promote skill in their use. Emphasis is given to understanding map characteristics and properties needed for effective map usage, projections upon which maps are commonly drawn, co-ordinates and grid systems, map scales, aerial representations of relief, and statistical data. Prerequisite: permission of the department.
- E.S. 260: MINERALS** 3 s.h.
 The identification, uses, physical and chemical properties, occurrence, origin, and crystallography of the common minerals. Called Mineralogy in older catalogues. Prerequisite: at least high school chemistry.
- E.S. 261: ROCKS** 3 s.h.
 The identification, occurrence and origin, classification, physical and chemical properties and uses of the common rocks. Includes a brief study of the important rock forming minerals. Called Petrology in older catalogues. Prerequisite: E.S. 252 or E.S. 111.
- E.S. 271: THE NEW GEOLOGY** 3 s.h.
 This course treats some of the newer spectacular developments in

geology which have radically changed much of the field in the last few years. These include continental drift and crustal shift, sea-floor spreading, exploration of the ocean floors and margins, causes of ice ages, paleomagnetism, and geological discoveries on the moon and near planets. The origin of igneous rocks and some of the newer aspects of mountain-building are more briefly treated. Formerly called Physical Geology II. Prerequisite: E.S. 252, Physical Geology.

E.S. 351: METEOROLOGY 3 s.h.

A systematic study of the atmosphere, analyzing the laws and underlying principles of atmospheric change. Students have the opportunity to become familiar with the common weather instruments, to observe and record weather data, to read and interpret weather maps, and to consider the problems of aviation growing out of atmospheric conditions.

GEOG. 352: CLIMATOLOGY 3 s.h.

A systematic study of the climatic regions of the earth, with advantages and limitations of each for human occupation. The physical aspects of the atmosphere and the regional characteristics of climate are investigated. Attention is also given to applied climatology. Acceptable for social science or natural science credit. Prerequisite: E.S. 111 or E.S. 351.

E.S. 353: DESCRIPTIVE ASTRONOMY 3 s.h.

The motions of the earth, moon, and planets and their connotations; the nature of the sun; the instruments of the astronomer, with observations of the constellations and types of stars. Special attention is given to magnitudes, spectra, temperatures, stellar atmospheres, giant and dwarf stars, binary and variable stars, and the galaxies.

**GEOG. 354: HISTORICAL GEOGRAPHY OF
THE UNITED STATES** 3 s.h.

The natural and cultural regions of pre-Columbian United States and the geography of settlement and regional development of the country to 1890. This course is very desirable for history majors.

GEOG. 355: GEOGRAPHY OF THE SOVIET UNION 3 s.h.

This regional study deals with Russia's location, size, surface features, climate, vegetation, soils, mineral wealth, occupations, production, transportation, and government. Russia's future production and economic and political influence are considered.

GEOG. 356: GEOGRAPHY OF EUROPE 3 s.h.

A study of European landscapes and regions, which seeks to develop an understanding of the geographic basis of Europe's major economic and social problems. Emphasis is upon western Europe; the Soviet Union is not included in this course. Recommended for majors in history and social science.

GEOG. 357: GEOGRAPHY OF ASIA 3 s.h.

A regional course stressing the interrelationship of the economic, social,

and political life of the people with their spatial environment. Problems of over population, standards of living, natural resources, industry, and government are emphasized. The Soviet Union is not included in this course.

GEOG. 451: CARTOGRAPHY I 3 s.h.

A study of the basic concepts in map design and techniques of map construction and drawing. The course treats the evolution of maps, types of maps and their usefulness, map scales, use of aerial photographs as a source of map data, and the kinds and uses of drafting instruments. Two lectures and three hours laboratory weekly. Prerequisite: permission of department.

GEOG. 452: GEOGRAPHY OF LATIN AMERICA 3 s.h.

A comparative study of the geographical regions of Middle and South America. Latin American relations with the United States and the rest of the world are interpreted through an analysis of the economic, social, and cultural activities of man in relation to the physical factors of his environment.

GEOG. 453: GEOGRAPHY OF AFRICA 3 s.h.

A systematic and regional study of the continent of Africa. The major physical features of Africa are interrelated with African settlement and historical development. The economic and cultural characteristics of African countries are analyzed on a regional basis to include current political and social problems within each region.

GEOG. 454: POLITICAL GEOGRAPHY 3 s.h.

Geographic factors influencing the character, development, and functioning of political units, especially the national state. The internal areal structure and external relations of nation states are studied as factors of political power. Natural, cultural, and ethnic regions of political areas are brought into focus, including core areas and capitals, dependent areas and colonies, and the communication lines necessary to maintain them. Points and zones of international conflict are connected with the practice of great power politics and with problems of world peace. Recommended for majors in history and political science.

GEOG. 455: CARTOGRAPHY II 3 s.h.

Application of and experimentation with cartographic techniques, materials, and procedures as related to map compilation. Problems of relief representation, mapping of quantitative data, and their relation to reproduction processes. Prerequisite: permission of the department.

GEOG. 456 AERIAL PHOTO INTERPRETATION 3 s.h.

A systematic study of aerial photographs for geographic investigations of physical and cultural features of the landscape; the application of remote sensing to topographic and planimetric map construction, agricultural and land use identification, landform study and forestry. Prerequisite: permission of the department.

GEOG. 459: FIELD GEOGRAPHY 3 s.h.

Techniques of geographic field investigation, with practical experience in conducting geographic studies and making maps out-of-doors. Prerequisite: Geog. 451: Cartography I and permission of the department.

GERMAN

In addition to courses listed below, students of German have an opportunity to study for a summer, a term, or an entire academic year in Germany and/or Austria.

GER. 151 GERMAN I (ELEMENTARY I) 4 s.h.

Essentials of grammar, inductively presented. Emphasis on aural comprehension and oral expression, with extensive use of the language laboratory. Students may not receive credit for this course until German 152 has been successfully completed. Exceptions may be made for seniors and transfers upon the recommendation of the department head.

GER. 152: GERMAN II (ELEMENTARY II) 4 s.h.

Continuation of German 151, with increasing emphasis on graded reading material. Prerequisite: German 151 or permission of the instructor.

GER. 153: ELEMENTARY GERMAN CONVERSATION 3 s.h.

Conversational practice, with extensive oral drill or grammatical patterns. Designed for those students who have met the prerequisites for German 251 but are lacking in aural-oral proficiency. May be taken concurrently with German 251.

GER. 251: GERMAN III (INTERMEDIATE I) 3 s.h.

Brief systematic review of basic grammar; graded readings; conversation and composition on everyday topics. Prerequisites: German 152 or two years of high school study and/or a satisfactory placement test score.

GER. 252: GERMAN IV (INTERMEDIATE II) 3 s.h.

Intensive reading of selected short stories and/or other works; outside reading, with oral and/or written reports. Prerequisites: German 251 or three years of high school study and/or a satisfactory placement test score.

GER. 253: SCIENTIFIC GERMAN 3 s.h.

A study of scientific terminology and style, with extensive readings in various scientific fields. Prerequisite: German 251 or equivalent. Science and mathematics majors may substitute this course for German 252.

GER. 255: GERMANIC CIVILIZATION I 3 s.h.

A survey of German geography, history, literature, and culture, designed to equip teachers with the materials and understanding necessary to the presentation of the language as a rich, meaningful, and integral part of a great civilization. Prerequisites: German 252 or four years of high school study and/or a satisfactory placement test score.

- GER. 256: GERMANIC CIVILIZATION II 3 s.h.
Continuation of German 255, which is prerequisite.
- GER. 257: GERMANIC CULTURES I 3 s.h.
A presentation in English of Northern and Central European culture patterns, especially those of Scandinavia, the Low Countries, and the three German-speaking countries. Modern ways of life in state and economy, family and education, work and leisure, literature, theatre, art, architecture, and music. Points of contact with American culture and preparation for educational travel are stressed.
- GER. 258: EUROPEAN CULTURES II 3 s.h.
Continuation of German 257, which is not necessarily prerequisite.
- GER. 300: GERMAN LITERATURE IN TRANSLATION 3 s.h.
A study of representative German literary works, with particular emphasis on the characters and ideas which have influenced both German and other literatures. The course is conducted in English; no knowledge of German required; no prerequisites.
- GER. 350: ADVANCED CONVERSATION AND INTERPRETATION 3 s.h.
Interpreting and translating skills, stressing everyday idioms and practical needs, especially for employment in government and industry.
- GER. 351: ADVANCED GERMAN GRAMMAR AND COMPOSITION 3 s.h.
Intensive oral and written drill, with emphasis on finer points of grammar, colloquial, and idiomatic usage. English-to-German translation, free composition, and conversation on everyday topics. Prerequisites: German 255 and 256 or one literature course.
- GER. 352: SURVEY OF GERMAN LITERATURE THROUGH THE CLASSICAL AGE 3 s.h.
Study and discussion of the main trends of German thought and literary expression. Emphasis is placed upon the works of Goethe, Schiller, and Lessing.
- GER. 353 THE MODERN GERMAN DRAMA 3 s.h.
German drama from the middle of the 19th Century to the present, covering representative writers of the Realist, Naturalist, and Expressionist movements, as well as selected contemporary writers.
- GER. 354: THE MODERN GERMAN NOVEL 3 s.h.
The German novel of the last hundred years with emphasis on 20th Century writers such as Thomas Mann, Franz Werfel, Hermann Hesse, et al.
- GER. 355: GERMAN ROMANTICISM 3 s.h.
The older and younger schools of German Romanticism (Jena, Berlin, and Heidelberg) with emphasis on the revival of folk poetry and consideration of influences upon American Romanticism. Representative

authors: Hölderlin, Novalis, Arnim, and Brentano.

GER. 358: CLASSICAL GERMAN LITERATURE:
GOETHE, SCHILLER AND LESSING 3 s.h.

Goethe's *Faust* and other great works of the Golden Age of German literature.

GER. 360: CONTEMPORARY GERMAN PROSE 3 s.h.

Recent literary and linguistic developments in German prose style. The short story and news media as materials for training in oral expression and stylistics.

GER. 361: GERMAN LYRIC POETRY 3 s.h.

The German lyric from Mörike, Hofmannsthal, Rilke, and George to the post-expressionist movement and contemporary poets such as Benn, Nelly Sachs, and Enzensberger.

GER. 451: SUPERVISED READINGS IN GERMAN
LITERATURE 3 s.h.

The course is devoted to selected readings determined in relation to the needs and interests of the individual major.

HEALTH AND PHYSICAL EDUCATION

The following courses are offered for fulfillment of the general education requirement for all students.

HPE 111: HEALTH EDUCATION 2 s.h.

Consideration of the physical and mental equipment of the individual and of the practical application of health knowledge and concepts in personal, family, community, and environmental living. Special emphasis is placed in the areas of mental health, drug abuse, human sexuality and marriage, and the major diseases and health problems confronting society.

HPE 131: BEGINNING SWIMMING 1 s.h.

HPE 132: INTERMEDIATE SWIMMING 1 s.h.

HPE 230: SENIOR LIFE SAVING 1 s.h.

HPE 231: ADVANCED AQUATICS FOR MEN 1 s.h.

HPE 232: ADVANCED AQUATICS FOR WOMEN 1 s.h.

HPE 233: SPRINGBOARD DIVING FOR MEN 1 s.h.

HPE 234: SPRINGBOARD DIVING FOR WOMEN 1 s.h.

HPE 235: CANOEING 1 s.h.

HPE 330: WATERSAFETY INSTRUCTOR 1 s.h.

HPE 140: ARCHERY 1 s.h.

HPE 141: BADMINTON 1 s.h.

HPE 142: BOWLING 1 s.h.

HPE 143: GOLF 1 s.h.

HPE 144: HANDBALL AND RACQUET PADDLEBALL

FOR MEN 1 s.h.

HPE 145: RACQUET PADDLEBALL FOR WOMEN 1 s.h.

HPE 146:	SKIING	1 s.h.
HPE 147:	TENNIS	1 s.h.
HPE 148:	WRESTLING AND WEIGHT TRAINING	1 s.h.
HPE 151:	BASKETBALL FOR MEN	1 s.h.
HPE 152:	BASKETBALL FOR WOMEN	1 s.h.
HPE 153:	VOLLEYBALL FOR MEN	1 s.h.
HPE 154:	VOLLEYBALL FOR WOMEN	1 s.h.
HPE 161:	MODERN DANCE	1 s.h.
HPE 171:	GYMNASTICS FOR MEN	1 s.h.
HPE 172:	GYMNASTICS FOR WOMEN	1 s.h.
HPE 173:	RHYTHMIC GYMNASTICS FOR WOMEN	1 s.h.

In the above activity courses basic skills and fundamental techniques are taught. Etiquette, sportsmanship, strategy, rules, and officiating are included in the course content where applicable.

HPE 181:	ADAPTED PHYSICAL EDUCATION	1 s.h.
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A modified or corrective physical education course for those who by reason of illness or disability are unable to participate in the more vigorous forms of physical education activities.

HPE 182:	POSTURE AND BODY MECHANICS	1 s.h.
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An overall analysis of the factors involved in correct posture and body mechanics with individually prescribed exercise programs to meet personal needs.

HPE 223:	PHYSICAL EDUCATION FOR ELEMENTARY MAJORS	1 s.h.
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A course especially designed for Elementary Majors with emphasis upon activities related to the elementary school. Required for all men and women majoring in Elementary Education except for those students with an area of specialization in Health and Physical Education.

The following courses are offered for fulfillment of an area of specialization in Health and Physical Education for Elementary Education Majors.

HPE 112:	HEALTH EDUCATION IN THE ELEMENTARY SCHOOL	2 s.h.
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A course based on the premise that health education is not a subject but rather a way of living. Special emphasis placed upon the development of sound principles and procedures in meeting the different needs of the child in relation to the school, home, and community. Elementary health courses of study form the basic point from which each student explores content and methods for making a sound total health education program. The interrelationship of health education with all fields in the modern elementary program is a focal point of attention.

HPE 113:	PRINCIPLES OF HEALTH EDUCATION AND PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL	2 s.h.
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An orientation course designed to provide a study of Health Education and Physical Education in the Elementary School. Consideration is given

to history, values, objectives, and recent emphasis.

HPE 210: ANATOMY OF LOCOMOTION 3 s.h.

A study of the human body with particular emphasis on the systems of the body necessary for movement as related to scientifically sound and practical programs of physical education.

HPE 211: PHYSIOLOGY OF EXERCISE 2 s.h.

Scientific evaluation of the effects of muscular activity upon the human organism as a whole. Application to specific problems of Health and Physical Education program. Prerequisite: HPE 210.

HPE 224: ELEMENTARY SCHOOL ACTIVITIES I 1 s.h.

The analysis and practical application of basic movement patterns and skills. Physical fitness, exercise, stunts and tumbling, and self-testing activities are studied as a part of this course. This course is to be substituted for HPE 223 by elementary education majors selecting physical education as their area of specialization.

**HPE 310: ADAPTED PHYSICAL EDUCATION
FOR THE ELEMENTARY SCHOOL 2 s.h.**

The study and application of the modified or restricted activities to be provided at all grade levels for the child who may not safely participate in the regular instructional class period. Prerequisite: HPE 210.

**HPE 313: ORGANIZATION AND ADMINISTRATION OF HEALTH
EDUCATION AND PHYSICAL EDUCATION 3 s.h.**

Procedures of program building in Health Education and Physical Education; curricular and extra-curricular, facilities and equipment, class procedures, and legal liability.

HPE 324: ELEMENTARY SCHOOL ACTIVITIES II 2 s.h.

Games of low organization, team games, individual and dual sports, aquatics, rhythms dance, classroom and recreational activities as they add their unique contribution to the physical and cultural development of the elementary school child. Emphasis on progression, skill development, and safety for each grade level.

HPE 325: CAMPING AND OUTDOOR RECREATION 2 s.h.

Practical experiences in the basic skills necessary for a successful camping experience and their application for the effective organization of the elementary school camping program as it relates to and integrates with the total outdoor education movement.

HPE 410: KINESIOLOGY 2 s.h.

Techniques used in the analysis of bodily movement in physical activity. Prerequisite: HPE 210.

**HPE 413: CURRENT TRENDS IN HEALTH EDUCATION
AND PHYSICAL EDUCATION 1 s.h.**

Designed to aid the mature student in identifying, analyzing, and evaluating recent developments and critical issues in Health Education,

Physical Education, and Recreation.

HPE 414: THE FIRST AID AND SAFETY 2 s.h.

The responsibilities and duties of the teacher in the development and teaching of programs in first aid and safety that are related to the students' school and community environment. The American Red Cross Standard First Aid course will be included.

HISTORY

HIST. 111: HISTORY OF ANCIENT AND
MEDIÉVAL CIVILIZATION 3 s.h.

The course includes a survey of prehistoric cultures, the earliest civilizations, and European Medieval civilization to 1500. Its purpose is to present a knowledge of the origins of the broad social, political, intellectual, and economic movements of the past from which the student may gain an understanding of civilization today.

HIST. 112: HISTORY OF MODERN CIVILIZATION 3 s.h.

A study of significant movements and events from 1500 to the present. The course emphasizes the interrelationships between cultures of various regions of the world, with major attention to the influence Western Europe development has exerted on other areas.

HIST. 210: THE BLACK EXPERIENCE: A HISTORICAL AND
CULTURAL APPROACH TO AFRICA AND
AMERICA 3 s.h.

This course is an interdisciplinary survey of the black experience in Africa and America. It is based on a series of lectures by visiting scholars coordinated by reading assignments, field trips, and class discussions.

HIST. 213: HISTORY OF THE UNITED STATES 3 s.h.

A survey of United States history from the period of exploration to the present.

HIST. 254: HISTORY OF LATIN AMERICA: COLONIAL
PERIOD 3 s.h.

This course surveys the development of Colonial Latin America from its discovery to 1825. The economic, social, cultural, and political aspects of native Indian, Spanish, and Portuguese civilizations in the Old and New World are given detailed attention.

HIST. 255: HISTORY OF LATIN AMERICA: NATIONAL
PERIOD 3 s.h.

The main emphasis of this course is on the history of the twenty Latin American countries since 1825. The economic, social, political, and cultural development receives detailed attention. The course also surveys Latin America's international relations with emphasis on U.S.-Latin American relations.

- HIST. 256: HISTORY OF PENNSYLVANIA** 3 s.h.
A study of the founding and development of Pennsylvania from its colonial beginning to the present time. Emphasis is placed on the social, economic, and political development in the different periods of its history. Special attention is given to the diversity of the people, their institutions and problems, and the growth of Pennsylvania to a leading position in our modern industrial world.
- HIST. 310: HISTORY OF THE ANCIENT GREEKS** 3 s.h.
The development of the Greek peoples from their first penetration into the Mediterranean Area until their governments passed under Roman administration.
- HIST. 311: HISTORY OF ROME TO A.D. 565** 3 s.h.
The History of the Romans from the context of the founding of their city, through the development of their unique concept of government and civilization during their Republic and Empire until the full emergence of the Byzantine culture.
- HIST. 320: MEDIEVAL HISTORY** 3 s.h.
A study of the Middle Ages from the fall of Rome to 1500.
Prerequisite: Hist. 111 or consent of the instructor.
- HIST. 330: EUROPE DURING THE RENAISSANCE** 3 s.h.
A survey of the course of Europe's development from the thirteenth through the sixteenth centuries with emphasis on political, social, economic, and cultural trends and achievements and the problems of historical interpretation they pose.
- HIST. 335: EUROPE DURING THE REFORMATION** 3 s.h.
A survey of Europe's development during the sixteenth and seventeenth centuries with particular attention to the role of religion and religious issues and to the interaction between religion and political, economic and cultural affairs.
- HIST. 340: HISTORY OF EUROPE FROM 1660 to 1814** 3 s.h.
A study of the social, economic, political, religious, and cultural experiences of the European people from the Age of Louis XIV through the Napoleonic Wars.
- HIST. 345: HISTORY OF EUROPE FROM 1815 to 1924** 3 s.h.
A study of the social, economic, political, religious, and cultural experiences of the European people from the Congress of Vienna to the death of Lenin.
- HIST. 354: CONTEMPORARY AMERICAN HISTORY** 3 s.h.
This course is a study of the development of our nation through the Progressive Era, the first Rooseveltian period, World War I, the New Freedom, the Depression, the New Deal, isolationism, World War II, the Cold War, the Korean War, nuclear diplomacy, Eisenhower Republicanism, the New Frontier of Kennedy, and the Great Society of Johnson. It

includes political, social, and economic developments of the past six decades.

HIST. 355: ECONOMIC HISTORY OF THE UNITED STATES 3 s.h.

A survey of the economic history of the United States and a study of the relationship of the economic and the political and social factors in the development of America. Prerequisite: Hist. 213.

HIST. 356: CONTEMPORARY EUROPEAN HISTORY 3 s.h.

In this course the diplomatic background, the testing of the alliances, World War I, and the results of the Treaty of Versailles are emphasized. The various ideologies of government and economics are examined. Europe is placed in its proper setting of world significance.

HIST. 357: HISTORY OF ENGLAND TO 1689 3 s.h.

A comprehensive course in the History of England to the time of the Glorious Revolution.

HIST. 358: HISTORY OF ENGLAND SINCE 1689 3 s.h.

A comprehensive course in the cultural, political, and economic history of modern England.

HIST. 359: HISTORY OF THE AMERICAN FRONTIER 3 s.h.

This course includes the geographic continuity in the westward expansion of United States rather than the chronological. The historical period stressed in this course is from 1607 to 1893, the period when the American frontier was in the process of developing.

**HIST. 361: HISTORY OF AMERICAN SCIENCE
AND TECHNOLOGY 3 s.h.**

This course places emphasis on the historical survey of the development of American science and technology and of their effect on the growth of America's culture. America's contributions to the rest of the world along the lines of science and technology are stressed.

HIST. 362: HISTORY OF AFRO-AMERICA 3 s.h.

A survey of Afro-American history from its African beginnings to contemporary times (1969). Special emphasis will be placed on tracing the role of the Negro in American History in order to develop a better perspective of his contribution to the American way of life. A close study will be made of the junctures of American History where the problems of the Afro-American took on new meaning in American growth. Prerequisite: History 213 — the survey course in American History.

HIST. 365: RUSSIA TO THE TWENTIETH CENTURY 3 s.h.

Russia's development from the early centuries of the Christian era to the present century. Stress on the period beginning with the reign of Peter the Great with special attention to the nineteenth and early twentieth centuries as background for the Soviet period.

HIST. 366: RUSSIA IN THE TWENTIETH CENTURY 3 s.h.

Russia's development in the twentieth century with major attention to

Communism in theory and practice and emphasis on the role of the Soviet Union in world affairs.

HIST. 370: HISTORY OF THE NEAR EAST 3 s.h.

This survey is an area study of the early classical era by way of an advanced intensive exploration of the civilization in the Mediterranean East and the Middle East. After an introduction to the religion of Judaism and Christianity in their political setting, the cultural contributions of the Semites, Greeks, and Romans are examined. The Islamic Age is stressed. Emphasis is placed upon modern identification of the countries that make this an explosive part of the world — Jordan, Israel, Lebanon, Iran, Iraq, Arabia, Syria, Egypt, Turkey. Their relationship to the great powers is given attention.

HIST. 375: TRADITIONAL INDIA 3 s.h.

Examination of the historical development of Indian Civilization from its early origins to the coming of the Europeans, with emphasis on the classical period, religion, social organizations, and the arts throughout the ancient Hindu and Medieval Moslem periods.

HIST. 376: MODERN INDIA-PAKISTAN 3 s.h.

Rise of the British power, its political, economic, and social impact; reaction to British rule; rise of Nationalism and reformist movements; social, political, and economic development since 1947.

HIST. 385: MODERN SOUTHEAST ASIA 3 s.h.

Different systems of Western colonial rule, with major emphasis on territorial expansion, political administration, and economic patterns; reaction to alien rule, rise of nationalism, and social, economic, and political problems since independence.

HIST. 400: CONTEMPORARY ASIA SINCE
THE FIRST WORLD WAR 3 s.h.

An advanced elective course on the political and socio-economic changes in contemporary Asia and the emergence of free States, with particular emphasis on attempts to create stable democratic regimes.

HIST. 452: DIPLOMATIC HISTORY OF THE
UNITED STATES 3 s.h.

A study of American diplomatic history from 1789 to the present. The course traces the development of major foreign policies and studies in the national and international factors which influence and determine these policies. Prerequisite: Hist. 213.

HIST. 453: TOPICS IN TWENTIETH CENTURY
WORLD HISTORY 3 s.h.

The significance of events in the present century is brought out in this course by a study of the growth of capitalism, imperialism, totalitarianism, international jealousies. World Wars I and II, and the attempt of the family of nations to find world peace through international understanding.

HIST. 454: THE BRITISH EMPIRE AND
COMMONWEALTH OF NATIONS 3 s.h.

An advanced elective course on the formation and career of the British Commonwealth.

HIST. 455: THE CULTURE OF EUROPE
(EDUCATIONAL TOUR) 6 s.h.

Recent history and government of selected countries of Europe is stressed. Emphasis is placed upon England, Holland, Germany, Switzerland, Italy, and France as the educational tour develops into the foreign study program. In alternate years the countries of the Balkans, Greece and Turkey, and the countries of Scandinavia, Finland, Sweden, Denmark, and Norway are emphasized. English and German literature, the art and architecture of the Renaissance in Northern Italy, and the agricultural-industrial economy of France, receive intensive study. Geographical bases of cultural developments are noted. Recent developments in science, politics, and economics receive attention. The main term paper stems from a problem or project or discovery as observed by each student. This paper is due within 60 days upon the ending of the summer session class abroad.

HIST. 456: SOCIAL AND INTELLECTUAL HISTORY
OF THE U.S. to 1865 3 s.h.

The major social and intellectual movements in the United States from 1607 to 1865. Emphasis is put on reading in primary sources.

HIST. 457: SOCIAL AND INTELLECTUAL HISTORY
OF THE U.S. SINCE 1865 3 s.h.

The major social and intellectual movements in the United States from 1865 to present. Emphasis is put on reading in primary sources.

HIST. 458: ENGLISH CONSTITUTIONAL HISTORY 3 s.h.

A consideration of Constitutional government in England from the beginning of English history to the present. The study of governmental powers, political and judicial process, and the relationship of liberty and authority to the individual living under the government is included.

HIST. 461: COLONIAL AMERICA 3 s.h.

A study of colonial history beginning with the European background of colonization and continuing through the American Revolution. Prerequisites: Hist. 213 or consent of the instructor.

HIST. 462: AMERICAN WESTWARD EXPANSION (1803-1950) 3 s.h.

This course traces the American westward movement through the trans-Mississippi West and includes the American move into the Pacific island area in the 19th and 20th centuries. Emphasis is placed on the explorations and successive penetrations of the Far West and the Pacific Island frontiers and the developments of the United States power position in the Pacific. The impact of this great move westward on American political, social, and economic institutions is studied in detail. Research papers required of students may fall in either the 19th or 20th century phase of the course.

HIST. 463: CIVIL WAR AND RECONSTRUCTION 3 s.h.

This course is a basic study of the growth of sectional differences between North and South from 1820 to 1850. It further examines the failure of compromise efforts in the 1850's and the causes of secession. The war and the consequences of reconstruction policies to 1877 are traced in light of modern civil rights problems.

HIST. 467: LATIN AMERICA AND ITS WORLD RELATIONS 3 s.h.

This course is a survey of Latin America's inter-relationships with other world areas. It includes Latin America's place in world politics, its position in the international economic sphere, and its society and culture in a world context. Special emphasis is placed on U.S.-Latin American relations.

LIBRARY SCIENCE

L.S. 255: HISTORY OF BOOKS AND LIBRARIES 2 s.h.

Survey of the roles of books and libraries in our society. Emphasis on current problems. History of printing, the alphabet, early writing, art of illustrating, and book production.

L.S. 256: ADMINISTRATION OF SCHOOL LIBRARIES 3 s.h.

Study of the objectives and functions of the school library with emphasis on the concept of an instructional materials center. Technical and administrative procedures, budget preparation, personnel, space and equipment. Acquisition, preparation, and circulation of all forms of materials. Maintenance of the collection. Standards for evaluation of school libraries. Relations with other school libraries and the public library. The development of a functional school library program.

L.S. 257: BASIC REFERENCE SOURCES AND SERVICES 3 s.h.

Emphasis on the approaches to locating information. The criteria for selection of reference materials and the examination of reviewing media for new reference aids. Organization of reference service. The study of a selected list of reference works. Recommended as an elective for non-library science students.

L.S. 258: SELECTION OF LIBRARY MATERIALS 3 s.h.

Familiarity with basic bibliographical tools, including current reviewing media and the book trade. The establishment of policies and criteria for the selection and evaluation of book and non-book materials. Prerequisite to L.S. 356 and L.S. 358.

L.S. 259: ART FOR LIBRARIANS 1 s.h.

Development of basic skills and the understanding of art and its relationship to good library procedures. Practical studio work in the elements of graphic expression, lettering, display and exhibition, publicity techniques, layout, poster making, printing, book jacket design, book-binding, and related craft activities.

need or interest, under the direction of a faculty member of the division. Special area to be approved by a faculty committee. Development of research techniques. The preparation of a scholarly paper or completion of a special project.

MATHEMATICS

MATH 111: BASIC MATHEMATICS FOR
ELEMENTARY TEACHERS 3 s.h.

Structure of the real number system. Elementary set theory. Open to elementary education majors only.

MATH 112: BASIC MATHEMATICS 3 s.h.

An introduction to some of the basic concepts of contemporary algebra. Topics include: sets, numbers, language of algebra, equations and inequalities, exponents, radicals, relations and functions.

MATH. 131-2: MATHEMATICS FOR BUSINESS &
ECONOMICS I & II 3 s.h. each

Mathematical techniques with special applications in business and related areas. Topics include: matrices, linear programming, probability, methods of calculus, and business statistics. Prerequisite: two years of high school mathematics.

MATH. 151: COLLEGE ALGEBRA 3 s.h.

Polynomials, equations and inequalities, exponents and radicals, logarithms. Prerequisite: 1 year of high school algebra and 1 year of high school geometry.

MATH. 152: TRIGONOMETRY 3 s.h.

Properties of trigonometric functions and their inverses.

MATH. 171: COLLEGE ALGEBRA AND TRIGONOMETRY 4 s.h.

Review of high school algebra, inequalities, analytic trigonometry, logarithms, elementary theory of equations, complex numbers, and mathematical induction. Prerequisite: 2 years of high school mathematics.

MATH. 172: CALCULUS WITH ANALYTIC GEOMETRY I 4 s.h.

Elementary analytic geometry, limits, continuity, differentiability. Prerequisite: Math. 171 or equivalent.

MATH. 211: MODERN CONCEPTS OF MATHEMATICS
FOR ELEMENTARY TEACHERS 3 s.h.

Real number system, introduction to elementary abstract algebra, set theory. Open to elementary education majors only. Prerequisite: Math. 111.

MATH. 212: GEOMETRY FOR ELEMENTARY TEACHERS 3 s.h.

An intuitive overview of geometry; axiomatic structure of geometry; basic constructions, proofs. Open to elementary education majors only. Prerequisite: Math. 111.

- MATH. 213: ANALYSIS FOR ELEMENTARY TEACHERS 3 s.h.
 An elementary introduction to the basic properties of the real number system and the calculus, including functions, sequences, limits, continuity, integrals, and derivatives. Prerequisites: Math. 211.
- MATH. 214: FINITE MATHEMATICS FOR ELEMENTARY TEACHERS 3 s.h.
 An introduction to the basic properties of finite mathematics, including partitions of sets, counting theorems, permutations, combinations, probability. Prerequisite: Math. 211.
- MATH. 215: MATHEMATICAL CONCEPT LABORATORY – AN ACTIVITY ORIENTED APPROACH 3 s.h.
 Development of certain concepts of mathematics using an activity oriented approach. Class is conducted in a laboratory atmosphere. Topics considered are the rational number system, number theory, induction, measurement, geometric shapes. Prerequisite: Math. 111.
- MATH. 221: ELEMENTS OF STATISTICS 3 s.h.
 Basic principles and methods of statistical analysis useful in the social sciences, biology, and education, designed specifically for students not majoring in mathematics. (Not open to mathematics majors.)
- MATH. 271: CALCULUS WITH ANALYTIC GEOMETRY II 4 s.h.
 Review of limits, definition of Riemann integral and applications. Integration techniques; topics in analytic geometry. Prerequisite: Math. 172.
- MATH. 272: CALCULUS WITH ANALYTIC GEOMETRY III 4 s.h.
 Basic properties of limits, continuous and differentiable functions. Sequences, series, solid analytic geometry, functions of several variables, multiple integrals. Prerequisite: Math. 271.
- MATH. 350: ORDINARY DIFFERENTIAL EQUATIONS 3 s.h.
 First order differential equations. Linear differential equations of higher order; systems of differential equations. Series methods. Prerequisite: Math. 272.
- MATH. 352: PROBABILITY 3 s.h.
 Basic concepts of elementary probability; probability in finite sample spaces; conditional probability; independent trials; sophisticated counting; probability in relation to random variables. Prerequisite: Math. 272.
- MATH. 355: HISTORY OF MATHEMATICS 3 s.h.
 Study of the growth of mathematics through the centuries and the men who contributed to it. Prerequisite: Math. 272.
- MATH. 357: MODERN GEOMETRY 3 s.h.
 Axiomatic treatment of topics in geometry. Prerequisite: Math. 272.
- MATH. 360, 361: NUMERICAL METHODS IN MATHEMATICS I, II 3 s.h. ea.
 Computer programming of algorithms, error, calculus of finite dif-

ferences, numerical evaluation of integrals, algorithms for the solution of algebraic equations, and systems of algebraic equations with applications to selected problems. Prerequisite: Math. 272.

MATH. 370: INTRODUCTION TO LINEAR ALGEBRA 3 s.h.

Introduction to vector spaces, linear transformations, matrices, determinants, and related topics. Prerequisite: Math. 272.

MATH. 371, 372: MODERN ALGEBRA I, II 3 s.h.

An introduction to groups, rings, integral domains and fields. Prerequisite: Math. 272.

MATH. 454: THEORY OF NUMBERS 3 s.h.

Factorization, congruence, quadratic reciprocity. Number theoretic functions, diophantine equations, continued fractions. Prerequisite: Math. 272.

MATH. 456: MATHEMATICAL STATISTICS 3 s.h.

Mathematical expectation; discrete and continuous random variables; probability densities; sampling distributions; point estimations; interval estimation; tests of hypotheses; regression and correlation; analysis of variation; moment-generating functions. Prerequisites: Math. 352 and 272.

MATH. 471, 472: ADVANCED CALCULUS I, II 3 s.h. ea.

Limits, continuity, differentiability, integrability and convergence for functions of a real variable and of several variables. Prerequisite: Math. 272.

MATH. 473: ELEMENTARY TOPOLOGY 3 s.h.

Topological spaces, metric spaces, compactness, connectedness. Prerequisite: Math. 272.

MATH. 490, 491, 492: HONORS SEMINAR I, II, III 1 s.h. ea.

Selected topics in mathematics. Open only to students selected by the departmental seminar committee.

MUSIC

MUS. 111: INTRODUCTION TO MUSIC 3 s.h.

An introductory course designed to provide a basic orientation to the enjoyment and understanding of music. Use is made of recordings, concerts, and other media. No prerequisite courses or special abilities required.

**MUS. 131: LITERATURE AND MATERIALS OF MUSIC I
(ELEMENTARY)** 3 s.h.

The basic vocabulary of music fundamentals: notation, scale structures, intervals, triads and seventh chords, rhythm and meter, phrase and cadence, overtone series, modulation, introductory study of two-and-three part forms, etc. No prerequisite.

MUS. 132: LITERATURE AND MATERIALS OF MUSIC II
(ELEMENTARY) 3 s.h.

A study of recent methods and materials for teaching music in the elementary grades. Emphasis on development of reading ability. Includes drills in sight-singing and melodic dictation. Also includes an introduction to music of various historical periods and styles. Prerequisite: Mus. 131.

MUS. 135: THEORY OF MUSIC I 4 s.h.

Review of fundamentals: notation, scales, key signatures, intervals, chord structures, etc. Introduction to harmony: voice ranges, function of primary triads, cadences, voice leading, harmonizing melodies with I, IV, V. Ear training: pitch, rhythm, timbres. Sight singing: structure of the phrase, multiple-phrase sentences, folk song. Introduction to rhythmic, melodic, and harmonic dictation. For music majors or by permission.

MUS. 136: THEORY OF MUSIC II 4 s.h.

Continuation of Theory of Music I. Further aspects of harmony: first inversion, secondary triads, embellishing tones, root movements, second inversion, etc. Introduction to formal analysis (phrase relationships), harmonic and melodic analysis. Introduction to composition: simple formal structures. Further development of ear training, sight singing, and dictation. For music majors or by permission. Prerequisite: Mus. 135.

MUS. 151: HISTORY AND LITERATURE OF MUSIC I
ANTIQUITY TO 1600 3 s.h.

Music before the Middle Ages: Greece, Rome, Byzantium. Medieval music: Gregorian Chant, secular forms. Early polyphony; music of the 13th century. Ars Nova in France and Italy. English and Burgundian schools: Burgundian Chanson, motet, Mass. Renaissance music: social conditions; Netherlands Chanson, motet, Mass; Venetian, French, German, Spanish, and English music of the Renaissance. The Late Renaissance: Lutheran Chorale; Psalter; Anglican Church music; Palestrina, Victoria, Di Lasso, Byrd. English keyboard music; Gabrieli and instrumental music. For music majors or by permission.

MUS. 152: HISTORY AND LITERATURE OF MUSIC II
BAROQUE AND CLASSIC: 1600-1800 3 s.h.

Comparison of Renaissance and Baroque music; Early Baroque in Italy; Early and Middle Baroque in Northern countries; Middle Baroque in Italy; French music under absolutism; English music during Commonwealth and Restoration; Late Baroque in Italy and France; fusion and co-ordination of national styles; social conditions; Rococo; the Viennese classic period; style and form in Viennese classic music: Haydn, Mozart. For Music majors, or by permission. Prerequisite: Music 151.

MUSICAL ORGANIZATION CATALOG NUMBERS

MUS. 150: OPERA WORKSHOP 0 s.h.
MUS. 153: CONCERT CHOIR 0 s.h.
MUS. 154: MADRIGAL SINGERS 0 s.h.
MUS. 155: ORCHESTRA 0 s.h.

MUS. 156:	SYMPHONIC BAND	0 s.h.
MUS. 157:	MARCHING BAND	0 s.h.
MUS. 158:	BRASS CHOIR AND CHAMBER MUSIC ENSEMBLE	0 s.h.

MUS. 159:	LABORATORY BAND	0 s.h.
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Comprehensive study of various schools and styles of jazz through performance, utilizing a jazz ensemble of approximately twenty-five instrumentalists selected on the basis of playing ability. Performance literature includes representative works for large jazz band ranging from styles of the 1930's to the present, with emphasis on recent trends in composition and arranging. Members receive instruction and guidance in principles of improvisation composition and arranging, and interpretation.

APPLIED MUSIC

Individual instruction in voice, piano, strings, woodwinds, and brass. Stress is placed on the development of an attitude of artistic maturity on the part of the student, and upon artistic performance at all levels of proficiency. Admission by audition and permission of instructor and department chairman. Prerequisite: Mus. 131 or equivalent background. Course numbers are listed below.

MUS. 160:	PIANO (CLASS)	1 s.h.
MUS. 161:	PIANO	1 s.h.
MUS. 162:	VOICE (CLASS)	1 s.h.
MUS. 163:	VOICE	1 s.h.
MUS. 164:	VIOLIN, VIOLA	1 s.h.
MUS. 165:	CELLO, STRING BASS	1 s.h.
MUS. 166:	FLUTE, OBOE, SAXOPHONE	1 s.h.
MUS. 167:	CLARINET, BASSOON	1 s.h.
MUS. 168:	TRUMPET, FRENCH HORN, BARITONE HORN	1 s.h.
MUS. 169:	TROMBONE, BARITONE HORN, TUBA	1 s.h.
MUS. 170:	PERCUSSION	1 s.h.

MUS. 231:	TEACHING MUSIC CREATIVELY	3 s.h.
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The various activities of the elementary music program (singing, listening, reading, moving, and playing of instruments) are approached through creative and experimental techniques which permit the child to learn with the body, mind, spirit, and through his whole personality. Each phase of the program should emerge as a vital creative activity.

MUS. 232:	KEYBOARD SKILLS FOR ELEMENTARY TEACHERS	3 s.h.
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Various styles of accompaniment for rote playing or sight reading of classroom and community songs. Emphasis upon the development of technical skills, reading facility, and memorization.

MUS. 233:	SONG LITERATURE FOR ELEMENTARY TEACHERS	3 s.h.
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A further study of the materials used in music education in the elementary school, including songs suitable for rote teaching or for reading, folk songs from various countries, and appropriate art songs. Emphasis on the development of the singing voice and the achievement of

vocal command of representative song literature.

MUS. 235: THEORY OF MUSIC III 4 s.h.

Continuation of Theory of Music II. Further aspects of harmony: dominant seventh, suspension, other seventh chords, dominant ninth and thirteenth, secondary dominants, diatonic modulation. Melodic analysis: plain chant to folk song, melodic and rhythmic features of motives, continuation of formal and harmonic analysis. Further experience in composition: melodic rhythm, harmonic generation of melody, considerations of vocal music. More complex formal structures: art song, sonata-allegro form, rondo form. Introduction to counterpoint in two parts. Advanced ear training, sight singing, and dictation. For Music majors or by permission. Prerequisite: Mus. 136.

MUS. 236: THEORY OF MUSIC IV 4 s.h.

Introduction to chromatic harmony, chromatic modulation. Musical analysis of scores: choir, band, orchestra, chamber music (formal, melodic, rhythmic, harmonic, and contrapuntal analysis). Composition: techniques of variation. Formal investigation of fugue. Counterpoint in three parts. Advanced experience in ear training, sight singing, and dictation. For Music majors or by permission. Prerequisite: Mus. 235.

MUS. 251: HISTORY AND LITERATURE OF MUSIC III.
BEETHOVEN, AND THE ROMANTIC PERIOD:
1800-1890 3 s.h.

Beethoven: life and character; Beethoven's music. Romanticism: historical perspective; social conditions; painting and literature. Vocal music; instrumental music; opera and music drama. The national schools: Russia; Bohemia; Scandinavia; France; England; Spain; American music. For Music majors, or by permission. Prerequisite: Mus. 152.

MUS. 252: HISTORY AND LITERATURE OF MUSIC IV.
CONTEMPORARY MUSIC: 1890 TO THE PRESENT 3 s.h.

The late romantics; impressionism; Stravinsky; Bartok; Hindemith; neoclassicists; nationalists; Soviet realism; neo-romantics; 12-tone composers; expressionism serial; music; Schoenberg; Berg; Webern, etc.; experimentalists, electronic music; Stockhausen, Boulez, etc. American music from the late 19th century to the present. For Music majors, or by permission. Prerequisite: Mus. 251.

MUS. 253: BASIC HARMONY FOR ELEMENTARY
TEACHERS 3 s.h.

Aspects of chord connection and voice-leading in four-part writing. Primary and secondary triads and their inversions; seventh chords; nonharmonic tones; simple modulation. Harmonic analysis of representative music examples to determine creative practices of composers of various periods. Prerequisite: Mus. 131 or equivalent musical background.

MUS. 255: EAR TRAINING AND SIGHT SINGING 3 s.h.

Training and practice in melodic, rhythmic, and harmonic dictation to develop ability to identify, understand, and write what is heard. Emphasis

on singing at sight from a score and on aural analysis of melody and harmony. Prerequisite: Mus. 131.

MUS. 256: KEYBOARD HARMONY 1 s.h.

A practical application at the keyboard of the essentials of harmony, designed to help the student develop a sense of good chord progression and to master extempore keyboard harmonization, transposition, and improvisation. Prerequisite: Mus. 131 or 135, plus 2 semesters of applied piano.

MUS. 257: HISTORY OF MUSIC I 3 s.h.

A study of western music from its origins in Hebrew and Greek cultures through the development of plainsong and polyphony, to Haydn and Mozart. Analysis of styles and techniques employed by various composers and of concurrent trends in the other arts.

MUS. 258: HISTORY OF MUSIC II 3 s.h.

A continuation of Mus. 257. A survey of 19th and 20th century music from Beethoven to the present, emphasizing development and experimentation throughout the twentieth century. Mus. 257 desirable but not required.

MUS. 259: BAND AND ORCHESTRA INSTRUMENTS 3 s.h.

The construction, tone quality, range, and special uses of each instrument in solo capacity or as part of the orchestra or band. Practical work includes learning to play and to demonstrate the various instruments, with emphasis on fundamental techniques.

INSTRUMENTAL TECHNIQUES

This sequence of courses is designed to acquaint the music education major with a basic knowledge of the instruments commonly used in bands and orchestras. Sufficient technique must be developed by each student to enable him to introduce these instruments successfully to beginners in elementary or secondary school instrumental programs. Includes proper methods of tone production, fingerings, bowing techniques, embouchure and breath control, selection and purchase of instruments for school use, care and maintenance of instruments, selection, care, and adjustment of reeds or strings, storage of instruments, methods used in instruction of the instrument, and historical aspects of each family of instruments. For Music majors or by permission.

MUS. 261: INSTRUMENTAL TECHNIQUES I: VIOLIN, VIOLA 1 s.h.

MUS. 262: INSTRUMENTAL TECHNIQUES II:
CELLO, STRING BASS 1 s.h.

MUS. 263: INSTRUMENTAL TECHNIQUES III:
FLUTE, OBOE, SAXOPHONE 1 s.h.

MUS. 264: INSTRUMENTAL TECHNIQUES IV:
CLARINET, BASSOON 1 s.h.

MUS. 265: INSTRUMENTAL TECHNIQUES V:
TRUMPET, FRENCH HORN 1 s.h.

MUS. 266: INSTRUMENTAL TECHNIQUES VI:
TROMBONE, BARITONE HORN, TUBA 1 s.h.

- MUS. 267: INSTRUMENTAL TECHNIQUES VII:
PRECUSION 1 s.h.
- MUS. 333: ELEMENTARY MUSIC METHODS 3 s.h.
The role of music in the elementary school; the roles of the classroom teacher, the music specialist, and the music consultant. Plans, attitudes, and problems in teaching music; curriculum development. Evaluation of musical experience and growth in primary, intermediate, and upper elementary grades. Music reading as an integral part of the total music program. Musical growth and experience in singing, part-singing, listening, instrumental and rhythmic activities. Emphasis on development of ability to use the voice effectively in teaching, and on the thorough familiarity with music series texts, use of keyboard, rhythmic instruments, recordings, and new developments in teaching aids. Supervised teaching experience. For Music majors only. Prerequisites: Mus. 135, 136.
- MUS. 334: JUNIOR HIGH AND SECONDARY
MUSIC METHODS 3 s.h.
A critical study of the entire intermediate and secondary school music program; academic, vocal, and instrumental. Curriculum planning, motivation, evaluation, selection of materials and texts, audio visual aids, and effective teaching methods for the general music course and for elective courses in theory, history, and appreciation of music. Particular attention will be given to the organization and development of both large and small vocal and instrumental groups: recruitment; selection of repertoire; performance levels; music rehearsal rooms and facilities; public performance and public relations. For Music majors only. Prerequisites: Music 135, 136.
- MUS. 351: KEYBOARD LITERATURE 3 s.h.
A comprehensive survey of keyboard music from the Renaissance to the present. Representative works from each period will be selected for careful study and analysis, with emphasis on performance practices as well as formal and stylistic elements in the music. Includes the development of various keyboard instruments. Prerequisite: Mus. 251, 252, or permission of instructor.
- MUS. 352: SYMPHONIC LITERATURE 3 s.h.
An intensive study of orchestral music from the Baroque period to the present, using scores, live performances, and recordings with particular reference to performance practices and stylistic analysis. Prerequisites: Mus. 251, 252, or permission of instructor.
- MUS. 353: CHAMBER MUSIC LITERATURE 3 s.h.
An intensive study of music written for small ensembles from the Renaissance period to the present. Representative works from each period will be selected for careful investigation and analysis. Performance by members of the class or by faculty groups will be used wherever possible. Prerequisite: Mus. 251, 252, or permission of instructor.
- MUS. 355: OPERATIC LITERATURE 3 s.h.
A comprehensive survey of the entire field of operatic music from 1600

to the present, including 17th century Baroque opera; 18th century operatic reforms (Gluck and Mozart); opera in the 19th century (Verdi, Wagner, Strauss, and Puccini); 20th century trends in opera (Stravinsky, Berg, Britten, Menotti, etc.). Prerequisites: Mus. 251, 252, or permission of instructor.

MUS. 356: CHORAL LITERATURE 3 s.h.

A comprehensive survey of choral music from the fifteenth century to the present with emphasis on masses, motets, and madrigals of the Renaissance period; oratorios, cantatas, and passions of the Baroque period; major choral works of Haydn, Mozart, Beethoven, Berlioz, Mendelssohn, Verdi, and Brahms; choral works of the twentieth century. Prerequisites: Mus. 251, 252, or permission of instructor.

MUS. 357: BAND LITERATURE 3 s.h.

A comprehensive survey of the available published and recorded literature for marching, military, and concert bands, symphonic wind ensembles, and woodwind and brass chamber ensembles including transcriptions and arrangements; major publishers in the field; evaluation of various editions; and also a study of the principal trends of instrumental pedagogy, repertoire, and performance. Prerequisites: Mus. 131, 132.

MUS. 361: PIANO TEACHING METHODS AND MATERIALS 3 s.h.

A comprehensive survey of modern piano teaching methods and available published teaching materials. Emphasis will be placed on the teaching of notation and the development of reading skills; the teaching of keyboard techniques through an understanding of the player's physical mechanism and the coordination of timing and touch; problems of fingering, pedaling, and memorization. Evaluation of materials for beginning students; easier teaching pieces by the great composers; anthologies; appropriate music for the intermediate student, leading to a more advanced technique and musicianship and to acquaintance with a wide range of composers and musical styles. Prerequisites: Mus. 151, 152; or Mus. 131 and permission of the instructor.

MUS. 362: INSTRUMENTAL METHODS 2 s.h.

Principles and procedures of organizing and conducting instrumental classes, bands, and orchestras in the public schools. Examination and use of texts, methods, and other materials. For Music majors or by permission.

MUS. 363: VOCAL METHODS 2 s.h.

Principles and procedures of organizing and conducting vocal classes and choral ensembles in the public schools. Vocal techniques, tone production, proper vowel placement, proper focus on tone, diction, diaphragmatic breathing, and investigation of choral literature. For Music majors or by permission.

MUS. 364: COMPOSITION 3 s.h.

A study of the nature of the musical idea and of the various possibilities of its subsequent development, including canonic or fugal treatment, motivic development, and variational procedures. A review of traditional

structural plans and of contemporary formal and stylistic trends. Creative assignments emphasize the understanding of past and present compositional styles and techniques and the gradual development of a personal language. Prerequisites: Mus. 135, 136, or permission of instructor.

MUS. 365: CONDUCTING I 2 s.h.

Designed to develop skilled baton technique and clarity of gesture, effective rehearsal techniques, understanding of performance problems involving tonal balance, tempo, complex rhythmic situations, especially as related to intermediate and secondary school instrumental groups. Traditional and modern beat patterns; expressive gestures; cues and development of left hand; fermata; etc. Study of scores; problems of interpretation and rehearsal; performance preparation. For Music majors or by permission.

MUS. 366: CONDUCTING II 2 s.h.

Continuation of Conducting I with emphasis on mastery of technique; special emphasis on problems of vocal groups in junior and senior high school.

MUS. 367: ORCHESTRATION 2 s.h.

Basic principles of clear instrumental organization and tonal interest, related to the size of the instrumental group. Ranges and registers of the instruments; transposition; bowing and phrasing; phrasing for woodwind instruments; possibilities and limitations. Texture, timbre, dynamics, principles of tonal interest: contrast of timbre; instrumental motion; blend. Structural values; design, overlapping of choirs; "light and shade." Orchestral types: Baroque, classic; modern; chamber. For Music majors or by permission.

MUS. 368: BAND ARRANGING 3 s.h.

A study of instrumentation and scoring problems in marching, military, and concert bands, symphonic wind ensembles, and woodwind and brass chamber ensembles. Emphasis on score layout and notation, copying and multiple reproduction of parts, copyright implications, and knowledge of effective combination of instrumental sounds. Prerequisites: Mus. 131, 261 (or equivalent background), and permission of instructor.

MUS. 369: MARCHING BAND TECHNIQUES
AND MATERIALS 2 s.h.

A detailed study of the marching band including organization, music, materials, care of instruments and uniforms, marching essentials, administration, and contemporary techniques. Prerequisites: Mus. 135, 136, 137, or permission of the instructor.

MUS. 451: ADVANCED CONDUCTING 3 s.h.

A study of selected works from band, choral, and orchestral literature with particular reference to performance problems involving tonal balance, tempi, complex, rhythmic and polymetric situations, vocal intonations, and diction. Conducting experience with band, choir and/or madrigal singers, and orchestra in rehearsal. Emphasis on a thorough understanding

of the musical score and on effective rehearsal techniques. Prerequisites: Mus. 365, 366, or permission of instructor.

ASSOCIATE DEGREE NURSING

NURS. 101: FUNDAMENTALS OF NURSING 4 s.h.

An introduction to nursing in which the concepts of nursing and nursing relationships are employed. Emphasis is placed on the basic needs of the individual during health and how these needs may be altered by illness. The student begins to learn and use basic nursing techniques through the application of scientific principles. Planned learning experiences are provided in a clinical setting for the progressive development of practitioner skills. Two lecture and six laboratory or clinical experience hours weekly.

NURS. 102: PARENTAL AND CHILD HEALTH NURSING 8 s.h.

The concept of the family as the basic unit of society is stressed in emphasizing nursing care during the normal maternal cycle and the growth and development of the child from birth through adolescence. Adaptations of nursing care to meet family needs arising from alterations in the normal health situation are also presented. Student-centered conferences are held preceding and following each laboratory period. Four lecture and twelve clinical experience hours weekly. Prerequisites: Biology 259; Psychology 211; minimum grade of C in Nursing 101.

NURS. 201: NURSING IN HEALTH AND DISEASE I 8 s.h.

This course enables the student to increase his knowledge and understanding of the physiological, sociological, and psychological implications of illness. Opportunities are provided for the student to develop further and to apply those skills previously learned as well as to acquire new ones. Learning experiences are planned to enable the student to identify the patient's needs and to implement a plan of care in accordance with those needs. The primary focus is upon the commonalities and differences in the major health problems of today as they affect all age groups, and the possibilities to be encountered in the future. Four lecture and twelve clinical experience hours weekly. Prerequisites: Biology 259 and 260; Psychology 211 and 322; minimum grade of C in Nursing 101 and 102.

NURS. 202: NURSING IN HEALTH AND DISEASE II 8 s.h.

Nursing 202 is a logical extension of Nursing 201, which is a prerequisite, offering additional opportunities for the student to develop technical skills and interpersonal relationships. Planned learning experiences during this course include observation and care of the mentally ill. Opportunity is also provided for the student to plan, implement, and evaluate total nursing needs for patients in intensive-care units and, utilizing a team approach, for groups of patients. Some emphasis will be placed on the needs of long-term and rehabilitative patients. Four lecture and twelve clinical experience hours weekly. Prerequisites: Biology 259 and 260; Psychology 211, 322 and 311; minimum grade of C in Nursing 101, 102 and 201.

NURS. 203: NURSING SEMINAR 3 s.h.

Historical developments and trends in nursing are studied, as well as how nursing influences and is influenced by current needs and social practices. Discussion includes licensure and employment opportunities for the nurse. Students will also be concerned with problems and responsibilities as they refer to the nurse as a person, as a member of the health team, and as a member of the community. Prerequisites: minimum grade of C in Nursing 101, 102, and 201.

PUBLIC SCHOOL NURSING

NURS. 351: PUBLIC SCHOOL NURSING 3 s.h.

An orientation to Pennsylvania's school health services is provided. The course demonstrates the nurse's responsibility in relation to the three main health obligations of the school: healthful school living, health instruction, and health services. Personal qualifications, professional preparation and functions of school nurse are outlined. Areas of study include health appraisal, health counseling, communicable disease control, emergency care, preventive procedures, and rehabilitation. Prerequisite: must have an R.N. degree.

NURS. 352: SPECIAL HEALTH PROBLEMS OF SCHOOL AGED CHILDREN 3 s.h.

This course covers a wide range of physical, social, and emotional problems common to school age children that prevent good school attendance or participation in the total school program. The nurse's responsibilities toward special community health concerns such as drug, tobacco and alcohol consumption; unwed mothers; venereal disease; sex education; and juvenile delinquency are studied. Emotional health, hearing, and vision problems are stressed in class. Ways of adapting the school program to meet the needs of the handicapped are illustrated.

NURS. 353: FAMILY CASEWORK 3 s.h.

Counseling in the area of school and family inter-related health problems is focused on the family. Interviewing and counseling techniques are reviewed. Selected case materials demonstrate methods of motivating the family to initiate appropriate care by utilizing available resources and the relationship of family health to community improvement is considered.

NURS. 354: PUBLIC HEALTH NURSING 3 s.h.

This course includes a brief introduction to the organization, administration, and coordination of public health services and describes the process used by the public health nurse in delivering various specialized health services to her patient, the family. Emphasis is placed on current public health problems and the nurse's community responsibilities. Field trips to and guest speakers from official and non-official agencies are part of the course. Prerequisite: R.N. degree.

PHILOSOPHY

PHIL. 111: ELEMENTARY LOGIC 3 s.h.

Principles of correct reasoning; principles of deductive and inductive inference and scientific method; use and misuse of language in reasoning.

PHIL. 112: SYMBOLIC LOGIC 3 s.h.

A study of the essential elements of symbolic logic including Boolean expansions, truth tables (symbolic proofs), the logic of relation, quantification rules, the properties of deductive systems, and propositional calculus. Special attention is given to the theoretical contributions of Carnap, Quine, and Russell.

PHIL. 211: INTRODUCTION TO PHILOSOPHY 3 s.h.

Inquiry into the persistent problems of philosophy, primarily those concerning man, nature and God. Prerequisite: sophomore standing.

PHIL. 212: ETHICS 3 s.h.

Examination of the problems of value and moral standards with a view toward developing an appreciation of the nature of the moral life.

PHIL. 255: HISTORY OF PHILOSOPHY I 3 s.h.

Thinkers from the Ancient Greeks up to the Renaissance, with special attention to Plato, Aristotle, Augustine, and Aquinas.

PHIL. 256: HISTORY OF PHILOSOPHY II 3 s.h.

Thinkers from the Renaissance to the 19th Century, with special attention to Descartes, Spinoza, Hume, Kant, and Hegel. Prerequisite: Philosophy 255 is recommended.

PHIL. 350: PHILOSOPHY OF RELIGION 3 s.h.

Inquiry into the nature and validity of religious knowledge; the nature and existence of God; the nature of man and human destiny.

PHIL. 352: EPISTEMOLOGY 3 s.h.

Concepts and problems involved in the appraisal of certain types of human knowledge: perception, knowledge and belief, and truth. Prerequisite: 6 credit hours in Philosophy.

PHIL. 353: METAPHYSICS 3 s.h.

Inquiry into some of the fundamental philosophical concepts: being, substance, matter, mind, and God. Prerequisite: 6 credit hours in Philosophy.

PHIL 354: AESTHETICS 3 s.h.

Study of some of the aesthetic theories from Plato to the present; nature of the aesthetic experience; principles of criticism in literature and the arts.

PHIL. 355: PHILOSOPHY OF SCIENCE 3 s.h.

Methods and procedures of reliable knowledge in the formal, natural, and social sciences. Prerequisite: Philosophy 111 is recommended.

Topics include thin lenses, thick lenses, interference, diffraction, polarization, color theory, and the study of spectra. Prerequisites: Ph. 252 or 259; Math. 271, with Math. 272 concurrently. Physics majors must simultaneously enroll in Ph. 364.

PH. 364: OPTICAL LABORATORY 1 s.h.

This laboratory complements Ph. 354, and should not be scheduled by students who are not also enrolled in Ph. 354. The experiments include velocity of light measurements, spectra and spectrometers, use of the laser in mirror and lens aberrations and properties, interferometer studies, etc.

PH. 355: NUCLEAR PHYSICS 4 s.h.

An introduction to the experimental and theoretical study of the atomic nucleus. Topics include natural and artificial radioactivity, decay schemes, nuclear reactions, nuclear energy levels, nuclear models, and instrumentation. Prerequisites: Ph. 353; Math. 272.

PH. 356: HEAT 3 s.h.

This is an intermediate course in heat. The basic concepts and principles are developed more intensively in the study of properties of gases and in thermodynamics. Some of the specific topics studied are temperature measurements, thermal expansion, specific heat, thermal conductivity of solids and liquids, thermal properties of gases, change in phase, and heat engines. Prerequisite: Ph. 252 or 259; Math. 272.

PH. 357: INTRODUCTION TO THE THEORY OF THE SOLID STATE 3 s.h.

The course will include the study of two- and three-dimensional space groups, Miller indices, crystalline structure of various types, X-ray diffraction, lattice vibrations, Einstein and Debye theories of heat capacity of solids, the free electron model transport properties of the electron gas, heat capacity of conduction electrons. Fermi-Dirac distribution law, and the transport properties of metal. Prerequisite: Ph. 353.

PH. 453: PHYSICAL MEASUREMENTS 3 s.h.

This is a course in the theory and use of precision measuring devices covering most areas of physics. Experiments are devised to fit the background and major of the individual student and to exploit the best equipment from all of the special laboratories of the Physics Department. Prerequisites: one of the following: Ph. 351, 352, 353, 354 or 355.

PH. 455: ELECTRONICS 3 s.h.

This course includes the analysis of circuits containing passive devices: resistors, capacitors, and inductors; as well as study of active devices: vacuum tubes and transistors. The uses of these devices in communications and industry are studied. Prerequisites: Ph. 252 or 259.

PH. 457: DEMONSTRATION IN PHYSICS 3 s.h.

This course is designed for the secondary education major in physics. Preparation and performance of classroom demonstrations for use in secondary schools are stressed. Prerequisites: Ph. 252 or 259.

PH. 460: INTRODUCTION TO MATHEMATICAL PHYSICS 3 s.h.

This course uses the techniques of vector calculus and differential equations with occasional introduction of topics of complex variables, calculus of variations and Fourier Series to treat problems of mechanics, electricity, and other areas of physics at a level intended to prepare the physics major for graduate-level work. Prerequisites: Ph. 351, 352, 353, 354, of which two may be taken concurrently with Ph. 460; Math. 272, 350; senior standing.

PH. 461: SEMINAR 1 s.h.

The physics seminar consists of mastering the techniques of literature-survey and library research on specific topics, together with the preparation and presentation of formal reports of a research nature. Prerequisites: senior standing, science major.

POLITICAL SCIENCE

P.S. 210: INTRODUCTION TO POLITICAL SCIENCE 3 s.h.

The underlying assumptions, varying methods, and differing conclusions of normative and empirical political analysis compared and contrasted by analyzing examples of both approaches.

P.S. 211: AMERICAN GOVERNMENT 3 s.h.

The study of the general principles of the American system of constitutional government; special emphasis is placed upon the organization and functions of the national government — legislative, executive, and judicial. The rights and duties of citizenship, the electorate, political parties, civil rights, and the growing regulatory functions of government are carefully treated.

P.S. 351: STATE AND LOCAL GOVERNMENT 3 s.h.

This course deals mainly with a detailed study of how our state and local governments function. Emphasis is placed on Pennsylvania government and the study is implemented by a field trip to Harrisburg for a more complete observation of state government at work. Field trips are made to local borough council and neighboring council meetings when available. A detailed study of the Constitution of Pennsylvania is made with emphasis on current amendments and changes. Independent study through outside projects is one of the requirements of this course.

P.S. 352: INTERNATIONAL POLITICS 3 s.h.

This course presents a framework for analyzing the behavior of states, the basic factors which motivate and affect international policies, and the techniques of resolving international conflicts.

P.S. 353: INTERNATIONAL ORGANIZATION 3 s.h.

This course deals with international organizations, both historically and analytically. Emphasis is placed on configurations that induce state behaviors leading to resolution of international conflicts and to the solution of common problems.

NOTE: Psychology 211 is a prerequisite for all of the following courses.

PSY. 222: EDUCATIONAL PSYCHOLOGY 3 s.h.

A study of the psychological foundations of education and the application of principles and methods of psychology to problems of learning and teaching.

NOTE: Credit toward the psychology major or minor will not be granted for this course.

PSY. 251: EXPERIMENTAL PSYCHOLOGY 3 s.h.

This course aims to acquaint the student with psychological experimentation and its methodology, particularly in the area of psychophysics. Subjects of experimentation include sensation, perception, illusions, learning, etc. Particular attention is given to the appropriate style of writing research reports.

PSY. 311: PSYCHOLOGY OF ADJUSTMENT 3 s.h.

This course emphasizes the psychodynamics of "normal" social adjustment and enables each student to explore his own self-identity, his social relationships, and his interactions with his environment. Problems of personality, mechanisms of adjustment, the origin and resolution of conflicts, and the role of emotion in behavior are studied.

PSY. 321: PSYCHOLOGY OF ADOLESCENCE 3 s.h.

The physical, intellectual, psychosocial, and cultural bases of adolescent behavior are studied as these relate to peers, home, school, and community.

PSY. 322: DEVELOPMENTAL PSYCHOLOGY 3 s.h.

Study of the development of human behavior from conception through infancy, childhood, adolescence, and adulthood. Special attention is given the physical, emotional, intellectual, and social aspects of development.

NOTE: This course does not substitute for Psy. 321 or Psy. 331, when such courses are part of a required curriculum. Credit toward major, minor, or concentration requirements will not be granted for Psy. 322 in conjunction with either Psy. 321 or 331.

PSY. 331: CHILD PSYCHOLOGY 3 s.h.

Study of the child from birth through pre-adolescence. Topics include the physical, social, emotional, and intellectual development of children, the relationship of heredity to environment, personality development, attitudes toward self and others.

PSY. 332: PSYCHOLOGY OF EXCEPTIONAL CHILDREN AND YOUTH 3 s.h.

This course introduces the student to the nature and characteristics of the blind, the deaf, the crippled, speech defectives, the mentally handicapped, the gifted, and the socially maladjusted. It aims to promote a functional understanding of the psychological implications of their be-

havior and its treatment as well as the guiding principles necessary to aid them in their learning processes.

PSY. 333: CHILD ADJUSTMENT 3 s.h.

This course is concerned with the study of the child's adjustment to his growing self and his environment. His emotional needs, the relationship of personal and environmental factors, his mode of adjustment, and the roles of parents, teachers, and special agencies in facilitating a healthy development are considered.

PSY. 354: ABNORMAL PSYCHOLOGY 3 s.h.

A survey is made in this course of the principal forms of the behavior disorders with emphasis on their etiology, diagnosis, prognosis, and treatment.

PSY. 355: SOCIAL PSYCHOLOGY 3 s.h.

Study is made in this course of the interpersonal relations of man and how these are affected by society's norms and values.

PSY. 356: SYSTEMATIC PSYCHOLOGY 3 s.h.

In this course the major theoretical systems of modern psychology are examined and critically evaluated.

PSY. 451: QUANTITATIVE METHODS IN
PSYCHOLOGY AND EDUCATION 3 s.h.

Statistical theory is introduced in order to acquaint the student with the why, when, and how of various statistical treatments of psychological and educational data.

PSY. 452: PHYSIOLOGICAL PSYCHOLOGY 3 s.h.

Examination is made in this course of the basic physiological mechanisms underlying behavior with special emphasis upon the functions of the nervous and endocrine systems as these relate to sensation, perception, emotion, and learning.

PSY. 453: INDUSTRIAL PSYCHOLOGY 3 s.h.

This course is concerned with personality factors and individual differences in relation to success in business and industry. The psychological principles involved in advertising, selling, personnel selection and management, mental and physical efficiency, intelligence, motivation, fatigue, and the environmental setting are among those analyzed. Prerequisite: Statistics - Psy. 451, Econ. 220, or Math. 221.

PSY. 454: PERSONALITY 3 s.h.

Systematic study is made of the development, dynamics, and structure of the self-system together with a critical comparison of the major theories of personality.

PSY. 455: PSYCHOLOGY OF LEARNING 3 s.h.

A critical survey is made of the outstanding attempts to understand and explain the nature of the learning process. Emphasis is placed on a comparison of current theories and their implications when applied to forms of learning from the simple to the complex.

PSY. 456: INTRODUCTION TO PSYCHOLOGICAL TESTING 3 s.h.

The major intelligence, aptitude, interest, and personality tests and inventories are critically examined and evaluated. Emphasized are the current psychometric theories underlying their construction and use and the interpretation of results.

PSY. 458: SENSATION AND PERCEPTION 3 s.h.

The sensory-perceptual processes will be studied with a view to understanding their structural properties and their role in the psychological functioning of man. Particular emphasis will be placed on vision and hearing and the differences within and between human individuals.

PSY. 464: INTRODUCTION TO CLINICAL PSYCHOLOGY 3 s.h.

Basic methods and techniques in clinical psychology are critically examined and evaluated. Prerequisites: Psy. 354 and 456.

PSY. 465: RESEARCH SEMINAR 3 s.h.

This course affords students the opportunity to continue the study of research techniques. Each student, with the approval of the instructor, will undertake a research project in the area of his choice. The work will culminate in a paper of distinguished quality. Enrollment is limited to Psychology majors who have distinguished themselves in previous departmental courses. Prerequisites: Psy. 251, 451, and 455 or 458 and permission of the instructor.

RUSSIAN

RUSS. 151: RUSSIAN I (ELEMENTARY I) 4 s.h.

Essentials of grammar, inductively presented. Emphasis on aural comprehension and oral expression, with extensive use of the language laboratory. Students may not receive credit for this course until Russian 152 has been successfully completed. Exceptions may be made for seniors and transfers upon the recommendation of the department head.

RUSS. 152: RUSSIAN II (ELEMENTARY II) 4 s.h.

Continuation of Russian 151, with increasing emphasis on graded reading material. Prerequisite: Russian 151 or permission of the instructor.

RUSS. 251: RUSSIAN III (INTERMEDIATE I) 3 s.h.

Brief systematic review of basic grammar; graded readings; conversation and composition on everyday topics. Prerequisites: Russian 152 or two years of high school study and/or satisfactory placement test score.

RUSS. 252: RUSSIAN IV (INTERMEDIATE II) 3 s.h.

Intensive reading of selected short stories and/or other works; outside reading, with oral and/or written reports. Prerequisites: Russian 251 or three years of high school study and/or a satisfactory placement test score.

RUSS. 253: SCIENTIFIC RUSSIAN 2 s.h.

A study of scientific terminology and style, with extensive readings in various scientific fields. Prerequisite: Russian 251 or equivalent. Science

and mathematics majors may substitute this course for Russian 252.

RUSS. 255: RUSSIAN CIVILIZATION I 3 s.h.

A survey of the geography, history, literature, and culture of the Soviet Union, designed to equip teachers with the materials and understanding necessary to the presentation of the language as a rich, meaningful, and integral part of a great civilization. Prerequisites: Russian 252 or four years of high school study and/or a satisfactory placement test score.

RUSS. 256: RUSSIAN CIVILIZATION II 3 s.h.

Continuation of Russian 255, which is prerequisite.

RUSS. 300: RUSSIAN LITERATURE IN TRANSLATION 3 s.h.

A study of representative Russian literary works, with particular emphasis on the characters and ideas which have influenced both Russian and other literatures. The course is conducted in English. No knowledge of Russian required; no prerequisites.

RUSS. 351: ADVANCED GRAMMAR AND COMPOSITION 3 s.h.

Intensive oral and written drill, with emphasis on finer points of grammar, and colloquial and idiomatic usage. English-to-Russian translation, free composition, and conversation on everyday topics.

RUSS. 353: THE RUSSIAN DRAMA 3 s.h.

Dramatic works of the 19th and 20th centuries, with special emphasis on the works of Anton Chekhov.

RUSS. 354: THE RUSSIAN NOVEL 3 s.h.

The great Russian novelists of the 19th Century: Gogol, Turgenev, Dostoevsky, and Tolstoy.

RUSS. 355: READINGS IN SOVIET RUSSIAN LITERATURE 3 s.h.

A survey of Russian literature since the Revolution of 1917.

RUSS. 361: DOSTOEVSKY 3 s.h.

A study of the life and works of Dostoevsky, with emphasis on his great novels: *Crime and Punishment*, *The Idiot*, *The Possessed*, and *The Brothers Karamazov*.

RUSS. 451: SUPERVISED READINGS IN
RUSSIAN LITERATURE 3 s.h.

The course is devoted to selected readings determined in relation to the needs and interests of the individual major.

SAFETY EDUCATION

SE 211: GENERAL SAFETY EDUCATION 3 s.h.

The development of habits and attitudes that will make for safe living by both teachers and students. Acquaintance with 1. rules, regulations, and laws concerning the operation of motor vehicles; 2. rules and regulations of pedestrian travel; 3. other hazards to which we are commonly subjected, such as fire, electricity, etc., especially in the home and school.

- SE 212: ORGANIZATION AND ADMINISTRATION OF SAFETY EDUCATION 3 s.h.
 A consideration of procedures and problems related to the organization and administration of safety education in the public school.
- SE 213: METHODS AND MATERIALS FOR TEACHING SAFETY IN THE SECONDARY SCHOOLS 3 s.h.
 The study of evaluative techniques, content, methods, and teaching aids in the program of safety education in the secondary schools.
- SE 214: PSYCHOLOGY OF ACCIDENT PREVENTION 3 s.h.
 Relates the achievement of behavior consistent with safe living to the psychological factors and techniques essential in the learning process. A review of the literature and experimentation relative to proneness to accidents, effect of alcohol on drivers, reaction times, etc.
- SE 215: VISUAL AND OTHER AIDS IN SAFETY EDUCATION 3 s.h.
 Evaluation and use of posters, charts, radio, projectors, and special aids in the teaching of safety education.
- SE 351: DRIVER EDUCATION AND TRAFFIC SAFETY 3 s.h.
 Classroom instruction combined with road training and the teaching of driving to beginners using dual control cars. Emphasis is placed upon the essential facts, principles, skills, and attitudes necessary for good driving and the teaching of same to beginning drivers. Ability to use and interpret the results of psycho-physical testing is required.

SCIENCE AND SCIENCE EDUCATION

- PH. SCI. 111: BASIC PHYSICAL SCIENCE: CHEMISTRY 3 s.h.
 This course is intended for non-science majors and does not assume prior familiarity with chemistry. It does not count toward requirements for science majors, but can be applied to fulfill the general education math-science requirements for non-science majors.
 Selected chemical principles are explored with the purpose of providing a background that will enable the student as a citizen to understand issues involving the interaction of science and society; brief experiments are often included. Students who prefer a more traditional chemistry course may elect either Chemistry 153 or 151 to fulfill their general educational requirements. No prerequisites.
- PH. SCI. 112: BASIC PHYSICAL SCIENCE: PHYSICS AND ASTRONOMY 3 s.h.
 This course is intended for those students not majoring in the sciences or mathematics, and does not presume any prior familiarity with the subject. Topics discussed are descriptive astronomy, cosmology, light and optics, force and motion, fundamental electrical phenomena and simple circuits, the special theory of relativity, and radioactivity and the atom. Brief experiments are integrated with the subject matter to emphasize the experimental basis of theory. The Planetarium is extensively used in conjunction with the sections on astronomy. No prerequisites.

SCI. ED. 322: TEACHING OF ELEMENTARY SCIENCE 3 s.h.

Methods of presenting science in the elementary school. Experiences are provided in learning process, scope and sequence of science concepts, methods of investigation, problem solving, laboratory skills, scientific attitudes, newer curricula, reading materials, observing and working with elementary school children, developing, teaching and evaluating lessons. 2 hours lecture and 2 hours laboratory weekly.

SCI. ED. 331: FUSED SCIENCE 2 s.h.

This course, following the year of basic sciences, is designed to provide the prospective elementary teacher with a more adequate background in biology and laboratory experiences applicable to teaching in the elementary school. The course has three aspects: (1) identification and natural history of local flora and fauna, (2) principles of basic ecology, and (3) methods of teaching the above areas of knowledge in a manner which will foster critical thinking.

SCI. ED. 456: ELECTRONICS FOR THE HIGH SCHOOL
SCIENCE TEACHER 4 s.h.

The course is intended for the science teacher who has had little or no previous course work in physics or mathematics. The subjects covered include the fundamental laws of electricity and magnetism, alternating current theory, and the theory and practical application of such devices as ammeters, voltmeters, oscilloscopes, vacuum tubes, transistors, power suppliers, amplifiers, and oscillators. Examples of some of these devices will be built in the laboratory, and general procedures for trouble-shooting faulty equipment will be illustrated.

SCI. ED. 485: PLANETARIUM OPERATION
AND MANAGEMENT 3 s.h.

An introduction to the techniques of operation and maintenance of planetarium projectors. Opportunities are provided for writing and presenting programs at various levels of instruction. The use of auxiliary projectors, the production of audio-visual materials, multi-media displays, and live versus programmed presentations are emphasized. Prerequisite: E.S. 353 or consent of instructor.

SOCIOLOGY

SOC. 211: PRINCIPLES OF SOCIOLOGY 3 s.h.

This is the basic course in sociology dealing with the interaction arising from the association of human beings. Emphasis is placed upon natural and social heritage; the meaning and functions of culture; and the origin, function, and characteristics of social institutions such as the family, religion, and the state, with inquiry into the nature and genesis of pathology.

SOC. 351: CONTEMPORARY SOCIAL PROBLEMS 3 s.h.

This course deals with problems which seem to interfere with the proper functioning of our society as a whole. Such topics as community control, a garrison society, "the sick cities," and mass culture, as well as

selected aspects of economic concern involving a family wage and welfare, are discussed. The course also focuses on the theories and explanations of social change.

SOC. 352: THE FAMILY 3 s.h.

This course deals with the development of the family and the home in its historical, economic, and legal aspects. The various factors influencing the organization, disorganization, and reorganization of the family are considered, as well as the modern trends in this basic institution.

SOC. 361: SOCIOLOGY OF DEVIANT BEHAVIOR 3 s.h.

The course examines deviance as a constant general social phenomenon, as well as forms of behavior which may be classified as deviant, especially in terms of American society. These will include crime and delinquency, drug usage and addiction, and sexual behavior. Emphasis will be given not only to the nature and forms of deviance, but also to reactions and orientations to deviance on the part of the deviant and of the larger society.

SOC. 362: RACIAL AND ETHNIC MINORITY PROBLEMS 3 s.h.

Background of racial and ethnic minority group relations in different ages and societies. Theories and scientific inquiries by sociologists, anthropologists, and psychologists related to racial and ethnic groups. Contemporary aspects of inter-ethnic and inter-racial group problems. Proposals for alleviating and resolving problems and their implications for major social institutions such as education, the economy, and government. Prerequisite: Psy. 211.

SOC. 363: URBAN SOCIOLOGY

Study of urban communities, their composition, structure, and development in relation to other types of communities. The growth of mass urban society, population shifts and trends, and their implications for basic social institutions such as education, the family, and the economy. Special emphasis upon contemporary urban problems and proposals of urban planners and community developers to meet them. Prerequisite: Soc. 211.

SOC. 370: FUNDAMENTALS OF POPULATION STUDY 3 s.h.

A study of factors influencing the quality and quantity, distribution, growth, and movement of populations. An examination of population trends and the implication for social problems and social policy.

SPANISH

In addition to the courses listed below, students of Spanish have an opportunity to study for a summer, a term, or an entire academic year in Spain and/or Mexico.

SPAN. 151: SPANISH I (ELEMENTARY I) 4 s.h.

Essentials of grammar, inductively presented. Emphasis on aural comprehension and oral expression, with extensive use of the language laboratory. Students may not receive credit for this course until Span. 152 has been successfully completed. Exceptions may be made for seniors and transfers upon the recommendation of the department head.

- SPAN. 152: SPANISH II (ELEMENTARY II) 4 s.h.
Continuation of Spanish 151, with increasing emphasis on graded reading material. Prerequisites: Spanish 151 or permission of the instructor.
- SPAN. 153: ELEMENTARY SPANISH CONVERSATION 3 s.h.
Conversational practice, with extensive oral drill of grammatical patterns. Designed for those students who have met the prerequisites for Spanish 251 but are lacking in aural-oral proficiency. May be taken concurrently with Spanish 251.
- SPAN. 251: SPANISH III (INTERMEDIATE I) 3 s.h.
Brief systematic review of basic grammar; graded readings, conversation and composition on everyday topics. Prerequisites: Spanish 152 or two years of high school study and/or a satisfactory placement test score.
- SPAN. 252: SPANISH IV (INTERMEDIATE I) 3 s.h.
Intensive reading of selected short stories and/or other works; outside reading, with oral and/or written reports. Prerequisites: Spanish 251 or three years of high school study and/or a satisfactory placement test score.
- SPAN. 253: COMMERCIAL SPANISH 2 s.h.
A study of commercial terminology and style, with extensive practice in the writing of business letters of various kinds. Prerequisite: Spanish 251 or equivalent. Economics and business administration majors may substitute this course for Spanish 252.
- SPAN. 255: HISPANIC CIVILIZATION I 3 s.h.
A survey of Hispanic geography, history, literature, and culture designed to equip teachers with the materials and understanding necessary to the presentation of the language as a rich, meaningful and integral part of a great civilization. Prerequisites: Spanish 252 or four years of high school study and/or a satisfactory placement test score.
- SPAN. 256: HISPANIC CIVILIZATION II 3 s.h.
Continuation of Spanish 255, which is, however, not prerequisite.
- SPAN. 300: SPANISH LITERATURE IN TRANSLATION 3 s.h.
A study of representative Spanish literary works, with particular emphasis on the characters and ideas which have influenced both Spanish and other literatures. The course is conducted in English; no knowledge of Spanish required; no prerequisites.
- SPAN. 350: ADVANCED CONVERSATION AND COMPOSITION 3 s.h.
Intensive oral and written drill, with emphasis on colloquial and idiomatic usage. Prerequisite: Spanish 351.
- SPAN. 351: ADVANCED SPANISH GRAMMAR AND COMPOSITION 3 s.h.
Intensive written drill, with emphasis on finer points of grammar, colloquial, and idiomatic usage, English-to-Spanish translation, and free com-

position on everyday topics. Prerequisites: Spanish 255 and 256 or a literature course.

SPAN. 352: INTRODUCTION TO SPANISH LITERATURE 3 s.h.

Study and discussion of the main trends of Spanish thought and literary expression. Emphasis is placed on the development of the novel and drama during the Golden Age.

SPAN. 353 THE MODERN SPANISH DRAMA 3 s.h.

A study of the modern theater in Spain, with emphasis on Benavente, García Lorca, Casona, Buero Vallejo, and López Rubio.

SPAN. 354: THE MODERN SPANISH NOVEL 3 s.h.

The development of the novel in Spain during the 19th and 20th centuries, with emphasis upon the discussion of realism, regionalism, and naturalism.

SPAN. 355: THE "GENERATION OF 1898" 3 s.h.

Discussion of the principal authors of this group and their influence on 20th century Spanish thought, with an analysis of the role played by historical events in the development of the movement.

SPAN. 359: THE LITERATURE OF THE GOLDEN AGE 3 s.h.

A survey of the greatest period of Spanish literature, with selected readings from Cervantes' *Don Quixote* and the plays of Lope de Vega, Tirso de Molina, Calderón, and Ruiz de Alarcón.

SPAN. 360: SURVEY OF SPANISH-AMERICAN LITERATURE 3 s.h.

Study and discussion of the evolution of Spanish-American literary expression from the colonial period to the Twentieth Century.

SPAN. 361: THE HISTORY OF MEXICAN LITERATURE 3 s.h.

The history of Spanish literature in Mexico from the Conquest to the present, with special emphasis on Lizardi, Altamirano, the novelists of the Revolution, and selected contemporary writers.

SPAN. 451: SUPERVISED READINGS IN HISPANIC LITERATURE 3 s.h.

The course is devoted to selected readings determined in relation to the needs and interests of the individual major.

SPECIAL EDUCATION

SPEC. ED. 210: EXCEPTIONAL CHILDREN 3 s.h.

The course is a study of the causes, characteristics, and implications — educational, social, and vocational — of children who are exceptional because of intelligence, physical development, behavior, vision, hearing, and speech. It also acquaints prospective professional personnel with vocational opportunities in Special Education and Rehabilitation.

SPEC. ED. 215: OBSERVATION AND PARTICIPATION 3 s.h.

Participatory half-day weekly experiences are provided for orientation to Special Education programs augmented by a 2 hour weekly session of human relations skills training.

SPEC. ED. 220: NATURE OF MENTAL RETARDATION 3 s.h.

This is a comprehensive study of the biological, psychosocial, and educational implications of retarded mental development, including a consideration of etiology; assessment and diagnosis; educational programs, including pre-school and post-school; adult social and vocational adjustment; national and local programs; and research. Prerequisite: Spec. Ed. 210.

SPEC. ED. 405: LEARNING AND BEHAVIORAL DISORDERS 3 s.h.

The nature of central nervous system anomalies and aberrant patterns of emotional development are observed and analyzed with concern for their diagnostic, educational, and rehabilitation implications. Prerequisite: Spec. Ed. 220.

SPEC. ED. 410: EDUCATIONAL APPRAISAL AND
PRESCRIPTION I 3 s.h.

This experience is conducted in the psychoeducational clinic of the Special Education Center and involves observation and active participation in educational diagnostic/prescriptive processes with persons who have learning problems. Prerequisite: Spec. Ed. 405.

SPEC. ED. 415: INSTRUCTIONAL DEVELOPMENT AND
STRATEGIES I 6 s.h.

This is the study of the process of individualizing instruction for children with mild to moderate learning handicaps. It involves designing basic instructional sequences utilizing behavioral objectives, matching media with learner and goal-characteristics, identifying appropriate instructional strategies, and evaluating the effectiveness of instruction. Prerequisite: Spec. Ed. 220.

SPEC. ED. 420: INSTRUCTIONAL DEVELOPMENT AND
STRATEGIES II 6 s.h.

This is a study of the process of individualizing instruction for children with severe to profound learning handicaps. It involves designing basic instructional sequences utilizing behavioral objectives, matching media with learner and goal-characteristics, identifying appropriate instructional strategies, and evaluating the effectiveness of instruction. Prerequisite: Spec. Ed. 220.

SPEC. ED. 425: CURRICULUM MATERIALS FOR
EXCEPTIONAL CHILDREN 3 s.h.

This course considers contemporary curricular innovations in educational programs for exceptional children and youth, with particular attention to the sociocultural implications of changing curricular practices and the new instructional media and technology.

SPEC. ED. 430: TEACHING/LEARNING STRATEGIES 1 s.h.

This course is designed to expand the understanding of the teaching-learning process by observation and application, focusing upon the development of advanced skills in the analysis of teacher behaviors, learner behaviors, classroom interaction and their implications. Prerequisite: Spec. Ed. 415.

SPEC. ED. 450: STUDENT TEACHING 12 s.h.

Observation and participation in teaching children with retarded mental development and in activities related to the performance of a teacher's work.

SPEECH COMMUNICATION AND THEATER

SCT 113: FUNDAMENTALS OF SPEECH – each semester 3 s.h.

Study, application, and evaluation of principles of organization, evidence, reasoning, critical thinking, verbal and nonverbal behavior, one-way and two-way communication, and small group interaction in the oral communication setting; emphasis is upon meeting the individual needs of students through individualized instruction utilizing communication experiences.

SCT 114: ADVANCED PUBLIC SPEAKING –
1st semester, annually 2 s.h.

Inquiry into and practice in the principles of effective public speaking. Detailed analysis of the areas of invention, arrangement, style, and delivery, and an introduction to speech criticism as a tool to improve the speaker's own abilities. Prerequisite: SCT 113.

SCT 115: PARLIAMENTARY PROCEDURE –
1st semester, annually 1 s.h.

A study of the principles and applications of the standard parliamentary rules used in conducting formal meetings of social, civic, and political bodies.

SCT 120: THEATER PLAY PRODUCTION –
1st semester, annually 3 s.h.

Elementary work in elements of theater, including directing, acting, make-up, criticism, stagecraft, and stagelight. No prerequisites. Students may not take both SCT 120 and SCT 350.

**SCT 200: COMMUNICATION THEORY AND
PROCESSES** – 1st semester, annually 3 s.h.

This course for prospective teachers of communication in secondary schools provides a survey of the nature and function of the communication process and an introduction to various communicative arts.

SCT 225: THE RHETORIC OF CONFRONTATION –
2nd semester, biennially 3 s.h.

This course is designed to introduce the student to the development of the rhetoric of confrontation and its contemporary manifestations in this

country. The course will emphasize those antecedent conditions giving rise to confrontational discourse, the historical development of confrontation rhetoric, and provide analysis of case studies of contemporary efforts to modify existing social, political, and economic systems through confrontation.

SCT 251: VOICE AND DICTION — 3 s.h.
1st and 2nd semesters, annually

The objective of this course is to help students improve their speech by the elimination of faulty voice and articulation habits. Attention is given to such basic skills as volume, pitch, resonance, rate, phrasing, pronunciation and articulation. Tape recordings are used as a helpful device for analyzing problems and noting progress.

SCT 252: SPEECH COMMUNICATION IN THE
ELEMENTARY CLASSROOM — 1st
semester, annually 3 s.h.

This course is designed to acquaint the prospective teacher with speech concepts and activities for use in the elementary classroom.

SCT 253: INTRODUCTION TO THE THEATER
1st and 2nd semesters, annually 3 s.h.

Survey of plays, theatre practice, and production from Aeschylus to Miller. Theory and criticism.

SCT 254: PRINCIPLES OF ACTING I — 3 s.h.
1st semester, annually

Principles and techniques of movement, stage direction, pantomimic dramatization, characterization development, and interpretation through improvisations and playing roles in scenes from contemporary dramas. Prerequisite: Voice and Diction or consent of the Instructor.

SCT 255: STAGECRAFT AND LIGHTING — 3 s.h.
1st semester, annually

Study and practice in scene construction, scene painting, theatre equipment, the basic technical elements of stage electricity, and instrumentation operation and selection.

SCT 256: ARGUMENTATION AND DEBATE — 3 s.h.
1st semester, annually

Principles of reasoned discourse and their application to controversial issues.

SCT 257: ADVANCED DEBATE — 2nd semester, biennially 2 s.h.

Further experience in competitive debating and in a variety of debating forms is provided. Prerequisite: Consent of Instructor.

SCT 258: USE OF VIDEOTAPE IN EDUCATIONAL
DEBATE — 2nd semester, biennially 2 s.h.

Utilization of the videotape technique to improve the debating skills of the student. Applications of videotaping to debating, including exchange

debates with other colleges and possibly international exchanges. Use of videotape as a technique for teaching debate. Consideration of experimental possibilities of the videotape process. Prerequisite: SCT 256, or consent of Instructor.

SCT 264: DISCUSSION – 2nd semester, annually 2 s.h.

Designed to develop the attitudes, skills, and knowledge of methods favorable to effective participation and leadership in discussion by conferences, committees, and other small groups.

SCT 300: COMMUNICATION IN ORGANIZATIONS –
1st semester, annually 3 s.h.

This course is designed to give insight into traditional and modern concepts of channels of communication in simple and complex organizations with emphasis on informal and formal group dynamics, interpersonal relationships, leadership, communication theory, and creativity. Considerable attention is given to interviewing.

SCT 311: PERSUASION – 2nd semester, biennially 3 s.h.

Study and practice in persuasive speaking. General theories of persuasion, the role of persuasion in a democratic society, and an introduction to modern experimental research in the area included.

SCT 312: GENERAL SEMANTICS – 1st semester, annually 3 s.h.

An investigation of the relationship between words and the realities they represent. Special emphasis will be given to an understanding of personal, political, and international problems that arise due to semantic breakdowns in the communication process. Students concentrating in Public Address may substitute this course for SCT 311, 411, 412, 490, or 491.

SCT 350: SUMMER DRAMA WORKSHOP –
regular summer, annually 6 s.h.

The summer drama workshop combines study and practice in the dramatic arts and includes formal, intensive study in acting, play production, direction, makeup, scene design, stage lighting, and stagecraft. In conjunction with the workshop, Clarion State College sponsors a Summer Theatre Company consisting of members of the workshop and produces five major productions.

SCT 351: ADVANCED THEATER PRODUCTION –
regular summer, annually 6 s.h.

Advanced study and practice in the dramatic arts, including projects in scene design, theater management and acting. Students will work with members of the Summer Drama Workshop in the production of five major plays for the Clarion Summer Theater. Prerequisites: SCT 120 or 350.

SCT 352: PLAY DIRECTING – 1st semester, annually 3 s.h.

A study of the fundamentals and procedures of play directing and problems faced in educational theater, including analysis of the script, methods of casting, and rehearsal. Students direct one-act plays for public presentation.

on the course of history in that democracy, both in and out of Parliament. Includes the study of the speaking of Lord Chatham, Burke, Fox, Pitt, Sheridan, Gladstone, Disraeli, and Churchill. For juniors and seniors.

SCT 453: APPLIED PHONETICS – 1st semester, biennially 3 s.h.

An analysis of the speech sound used in English so that the student develops auditory acuity and correct reproduction of sounds; transcripts of spoken material using I.P.A. system; comparison of phonetic alphabet and diacritical marking system; study of structure and function of speech organs; voice improvement; applied phonetics for speech correction.

SCT 454: RADIO AND TELEVISION –
1st semester, annually 3 s.h.

An introduction to the broadcasting industry including stations, networks, the Federal Communications Commission, advertisers and agencies, the public, and the impact of broadcasting as an entertainment, informational, and educational medium. A foundation course for communications study and the development of knowledgeable consumers of the broadcast media.

SCT 455: CREATIVE DRAMATICS FOR ELEMENTARY
TEACHERS – 2nd semester, annually 3 s.h.

A study of the techniques and theory of playmaking. Study of dramatic activities for children including story telling, story dramatization, rhythms, and pantomime. Designed for the elementary teacher.

SCT 458: PLAYWRITING – 2nd semester, biennially 3 s.h.

Principles of play construction. Analysis of historical and contemporary dramas. Preparation of original scripts. Designed to meet the interests and abilities of individual students.

SCT 465: ADVANCED ORAL INTERPRETATION –
2nd semester, biennially 3 s.h.

Inquiry into the advanced techniques of the oral interpretation of prose, poetry, and drama. Emphasis upon literary analysis and style.

SCT 490: INDEPENDENT STUDY –
1st and 2nd semesters, annually 1-3 s.h.

Selected topics for research and/or performance projects in Speech Communication and Theatre. The study or project is to be approved by a department committee and will be presented orally to the committee at the conclusion of the study. Students consult with the department chairman prior to registration.

SCT 491: INDEPENDENT STUDY –
1st and 2nd semesters, annually 1-3 s.h.

Selected topics for research and/or performance projects in Speech Communication, and Theatre. The study or project is to be approved by a department committee and will be presented orally to the committee at the conclusion of the study. Students consult with the department chairman prior to registration.

Butler	96	McKean	105
Cambria	78	Mercer	95
Centre	17	Montgomery	23
Chester	20	Northampton	10
Clarion	399	Philadelphia	24
Clearfield	87	Somerset	32
Crawford	62	Venango	317
Cumberland	16	Warren	38
Dauphin	45	Washington	75
Delaware	13	Westmoreland	286
Elk	53	York	20
Erie	132		

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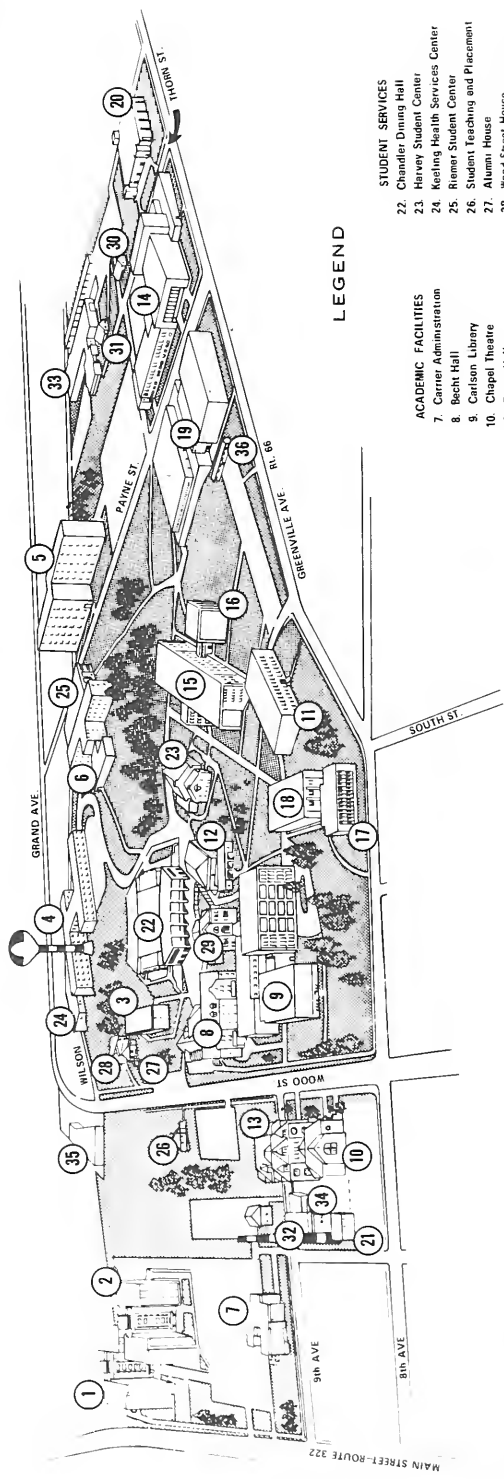
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FUTURE EXPANSION

LEGEND

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| 7. Career Administration | 22. Chandler Dining Hall |
| 8. Becht Hall | 23. Harvey Student Center |
| 9. Carlson Library | 24. Keeling Health Services Center |
| 10. Chapel Theatre | 25. Riemer Student Center |
| 11. Davis Hall | 26. Student Teaching and Placement |
| 12. Egbert Hall | 27. Alumni House |
| 13. Founders Hall | 28. Wood Street House |
| 14. Merrick-Boyd Fine Arts Center | MAINTENANCE & SUPPORT |
| 15. Perce Science Center | 29. Music Hall |
| 16. Planetarium | 30. Thum I |
| 17. Special Education Annex | 31. Thum II |
| 18. Stevens Hall | 32. Laundry |
| 19. Tuppen Gymnasium & Natatorium | 33. McEntire Maintenance |
| 20. Becker Research-Learning Center | 34. Power Plant |
| 21. Foundry | 35. Receiving and Central Stores |
| | 36. G.S.A. Office |

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2. Nair Hall
3. Ballentine Hall
4. Given Hall
5. Creppell Hall
6. Ralston Hall

